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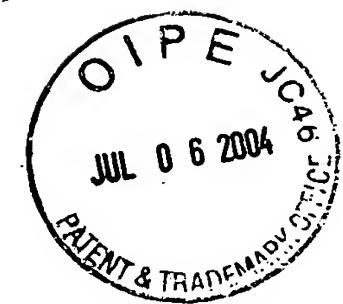
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Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: **Thermal Micro-Valves for Micro-Integrated Devices**
Atty. Docket No.: UM-08280 Sheet 1 of 31

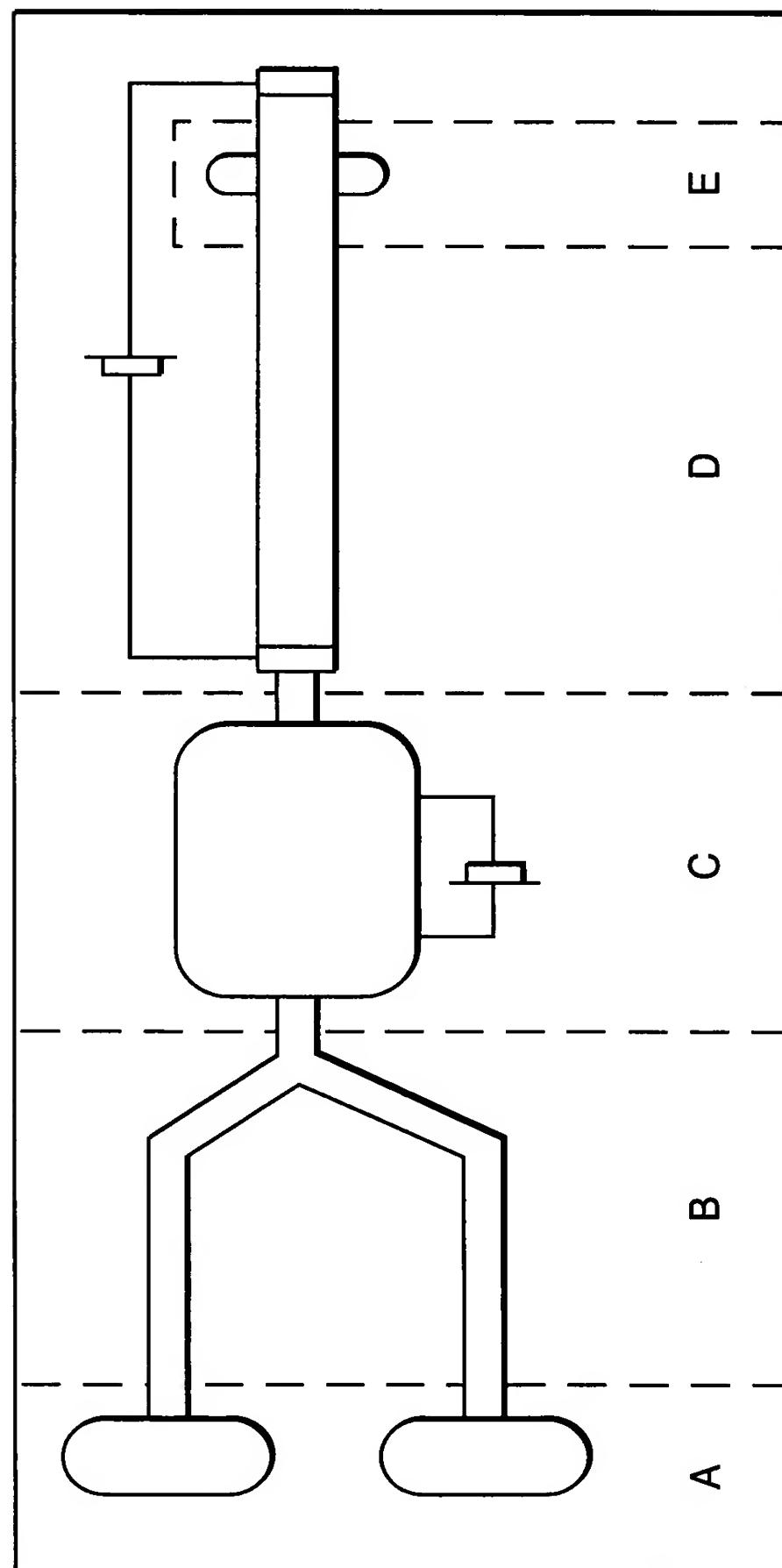


FIG. 1

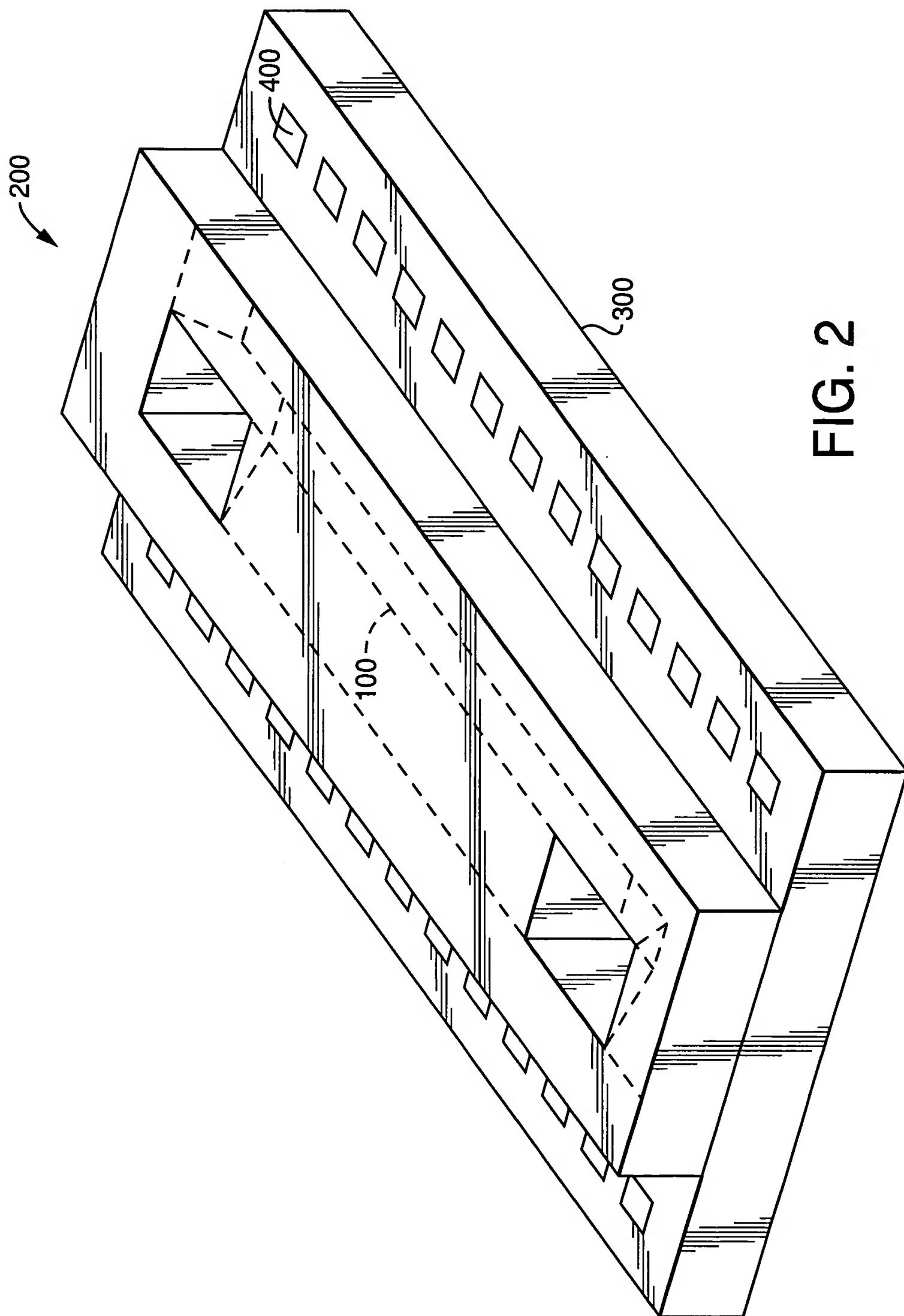


FIG. 2

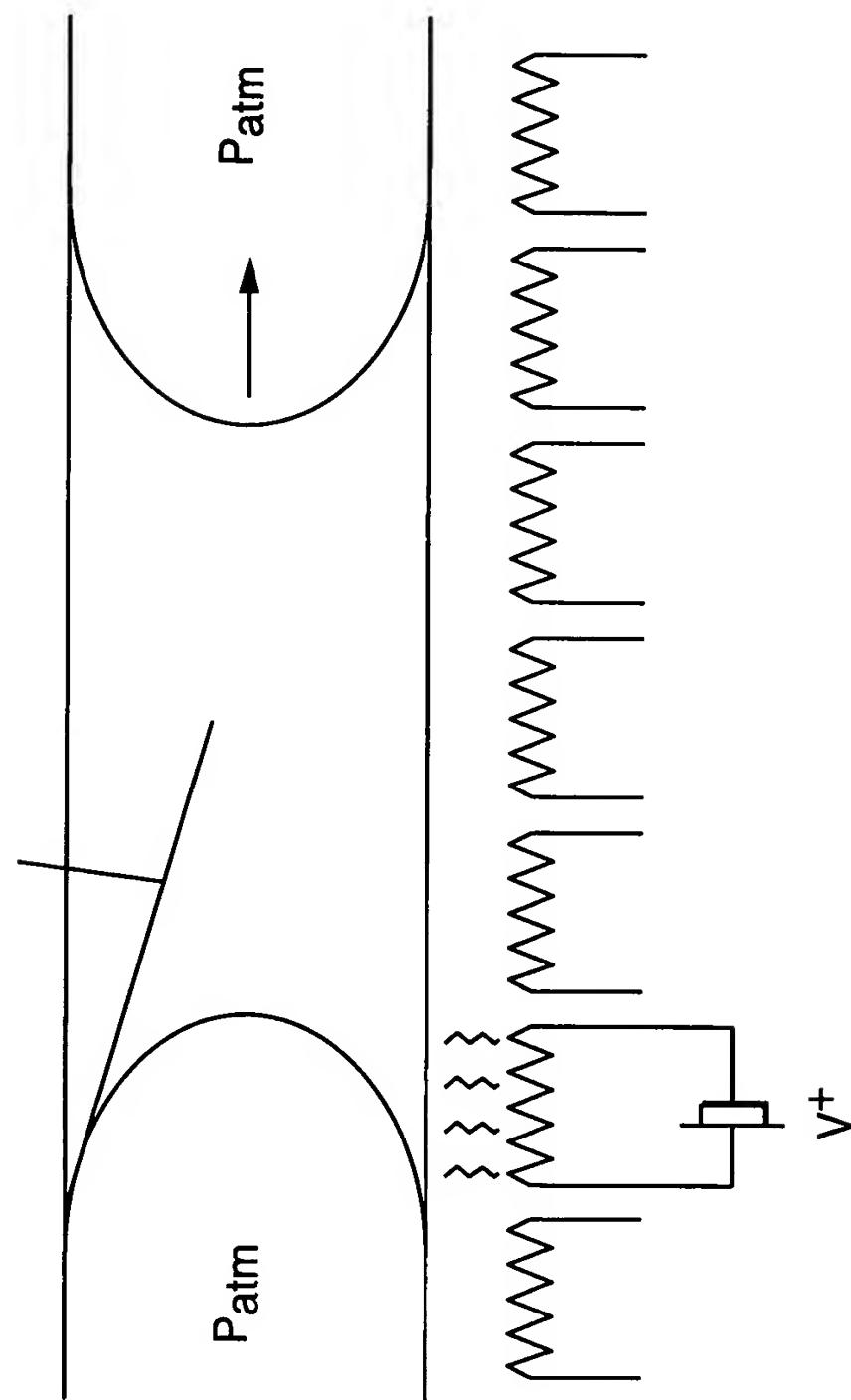


FIG. 3

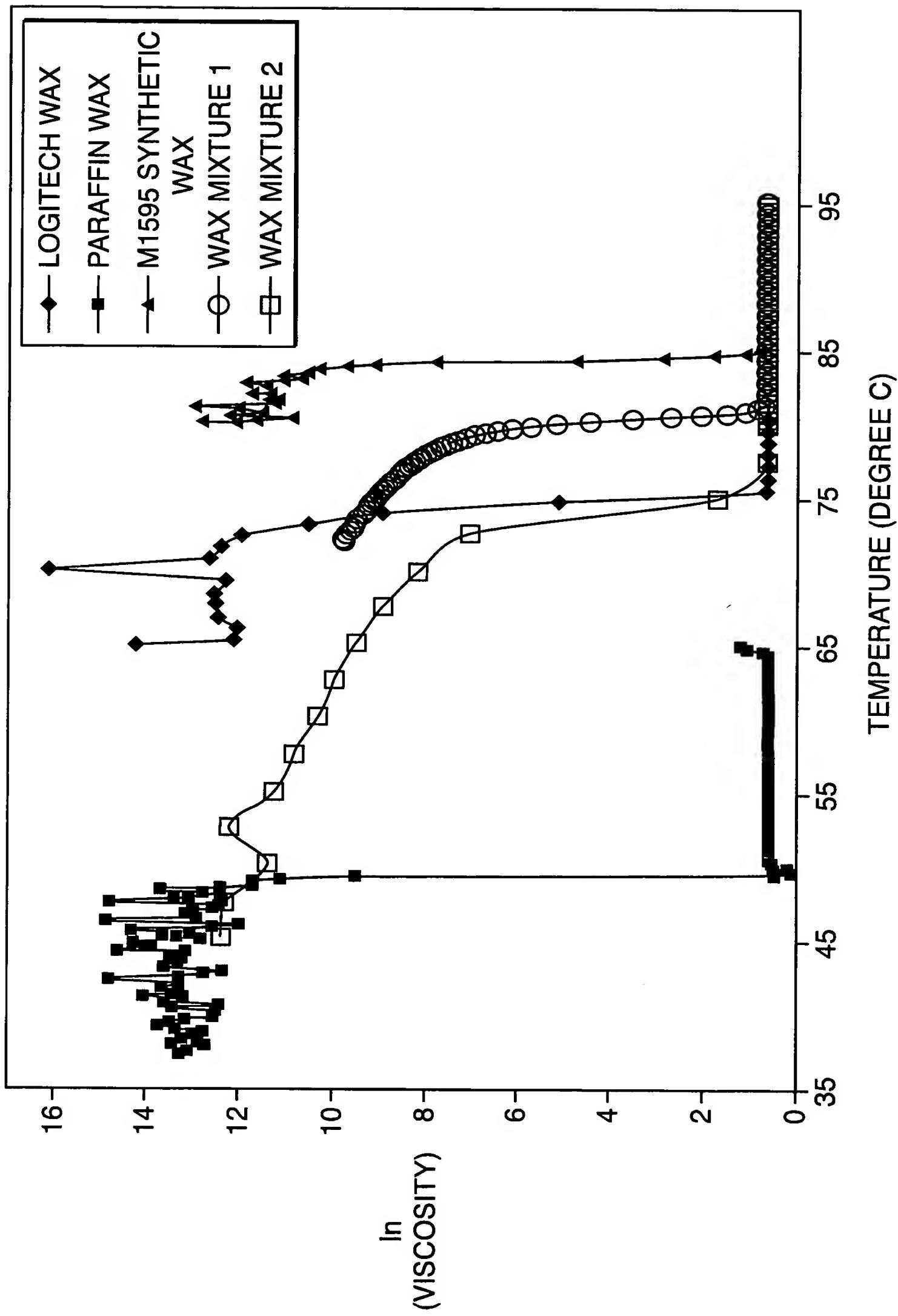


FIG. 4

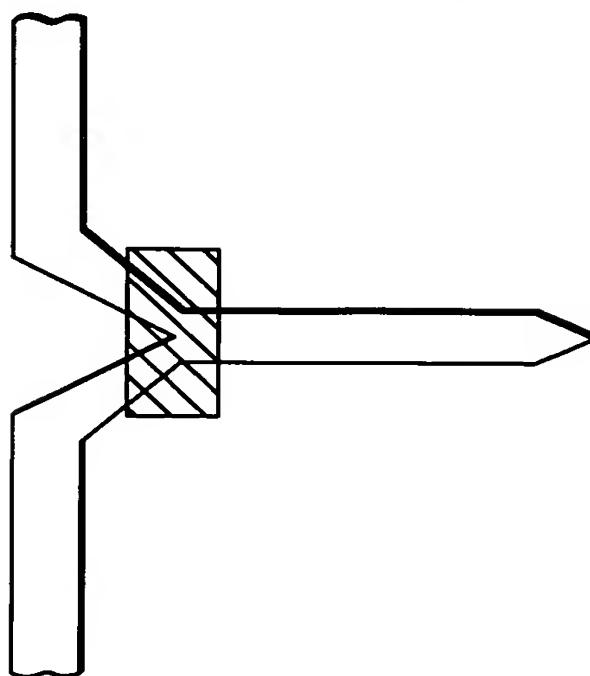


FIG. 5C

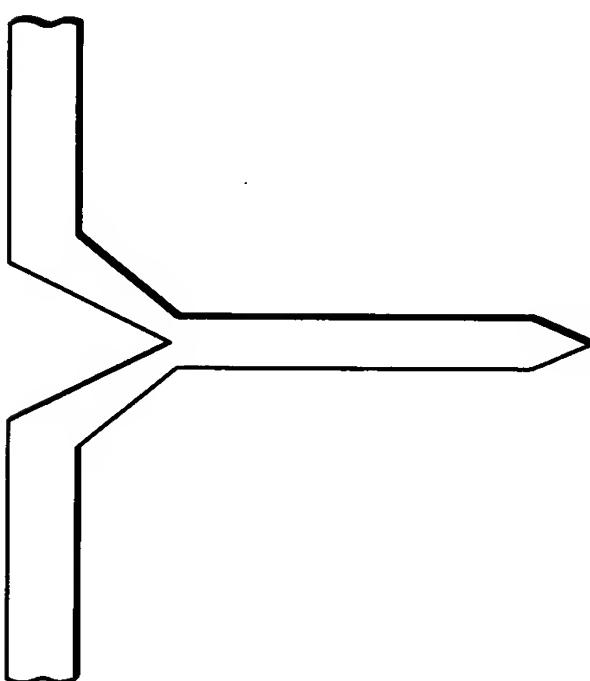


FIG. 5B

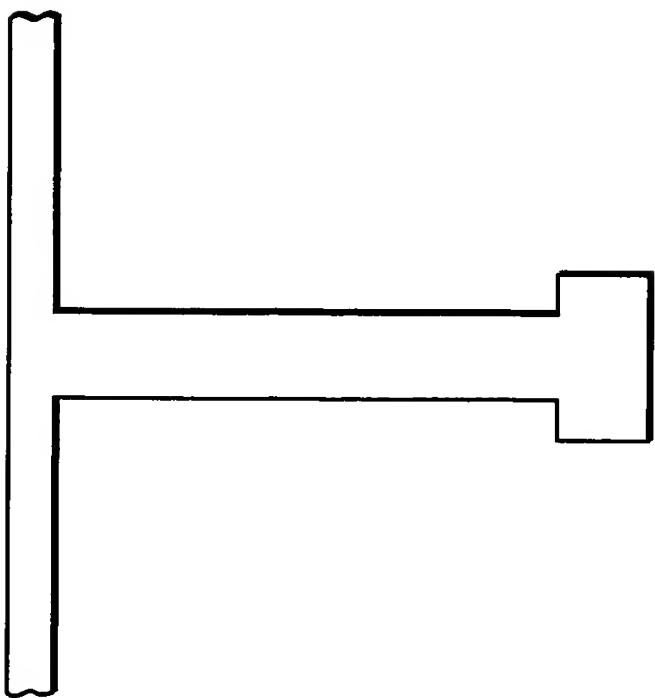


FIG. 5A

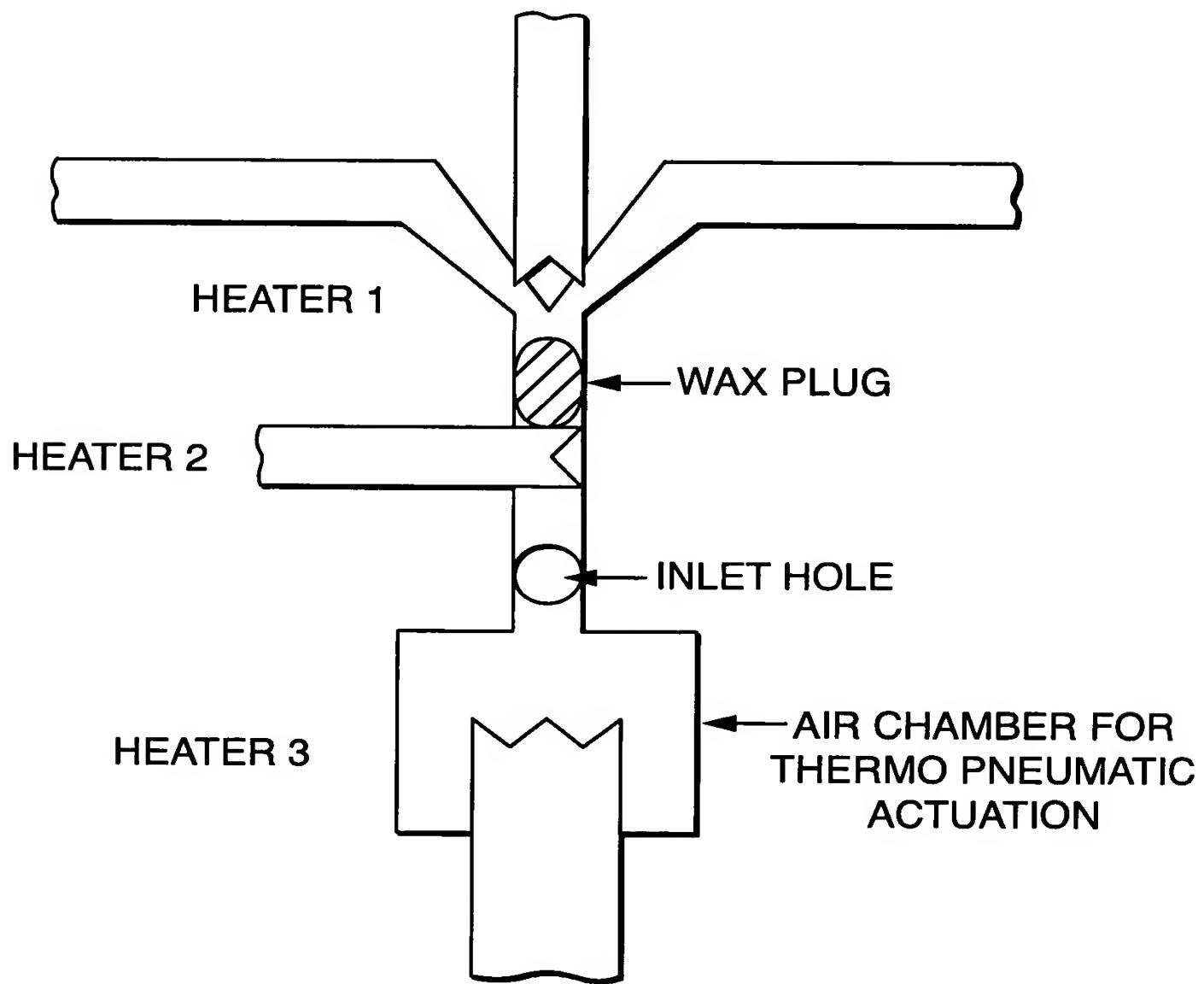


FIG. 6

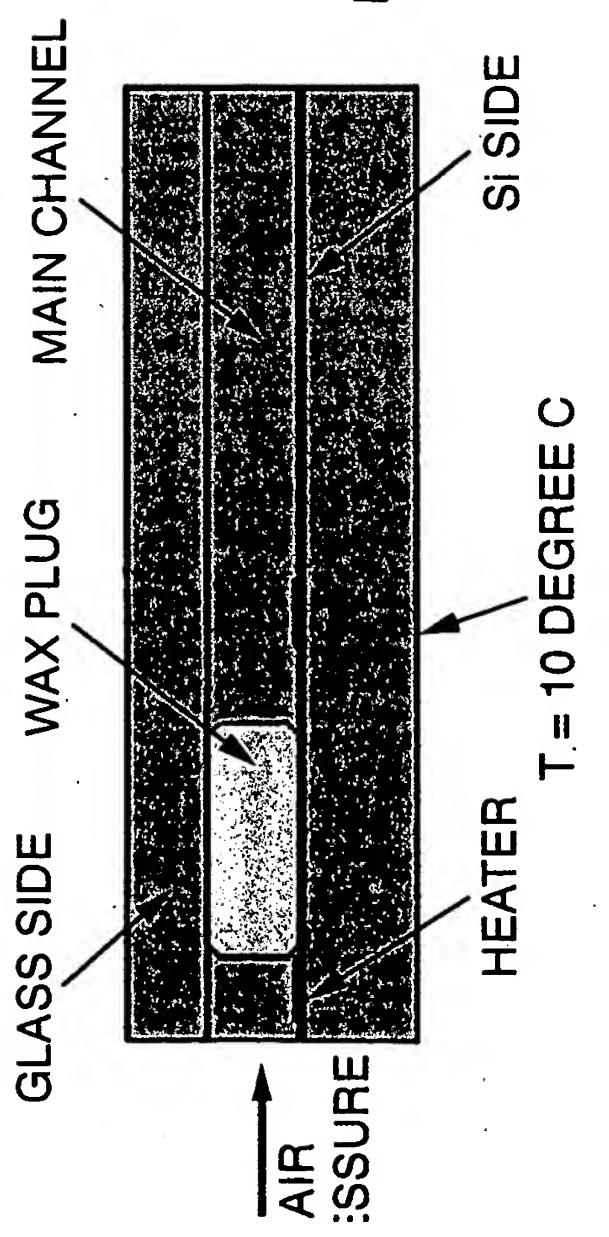


FIG. 7A

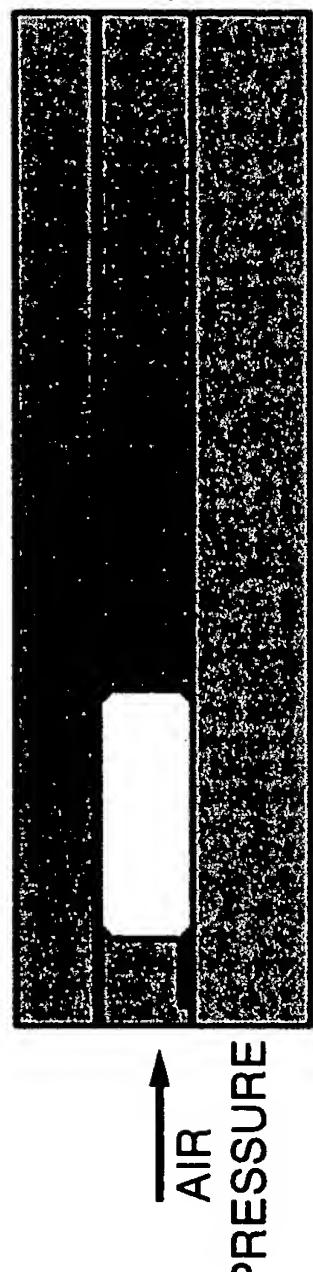


FIG. 7B



FIG. 7C

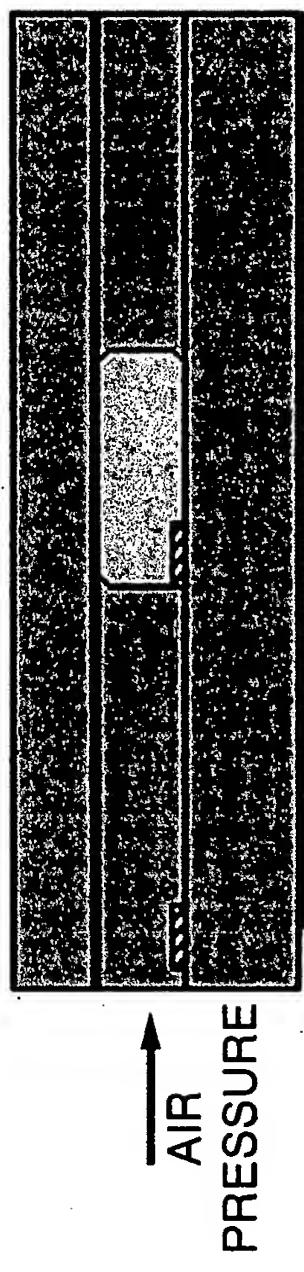


FIG. 7D

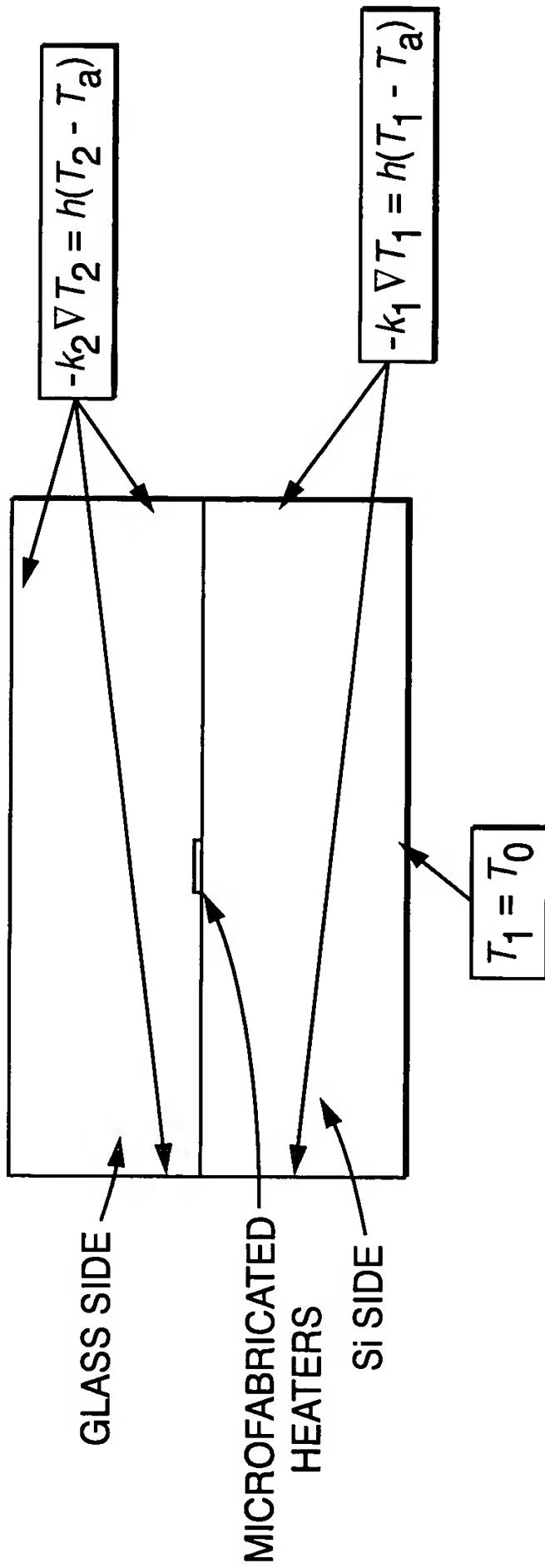


FIG. 8

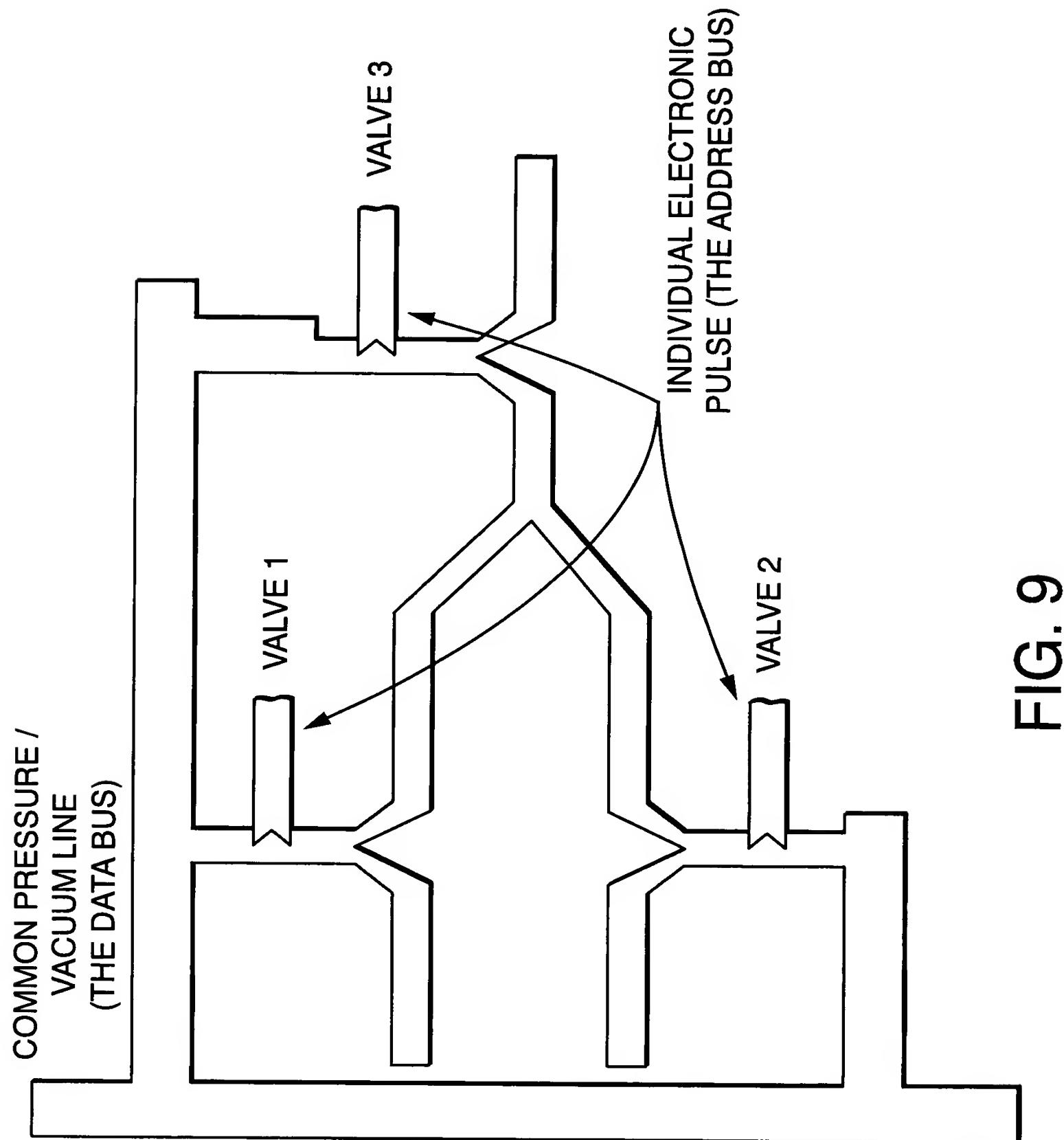


FIG. 9

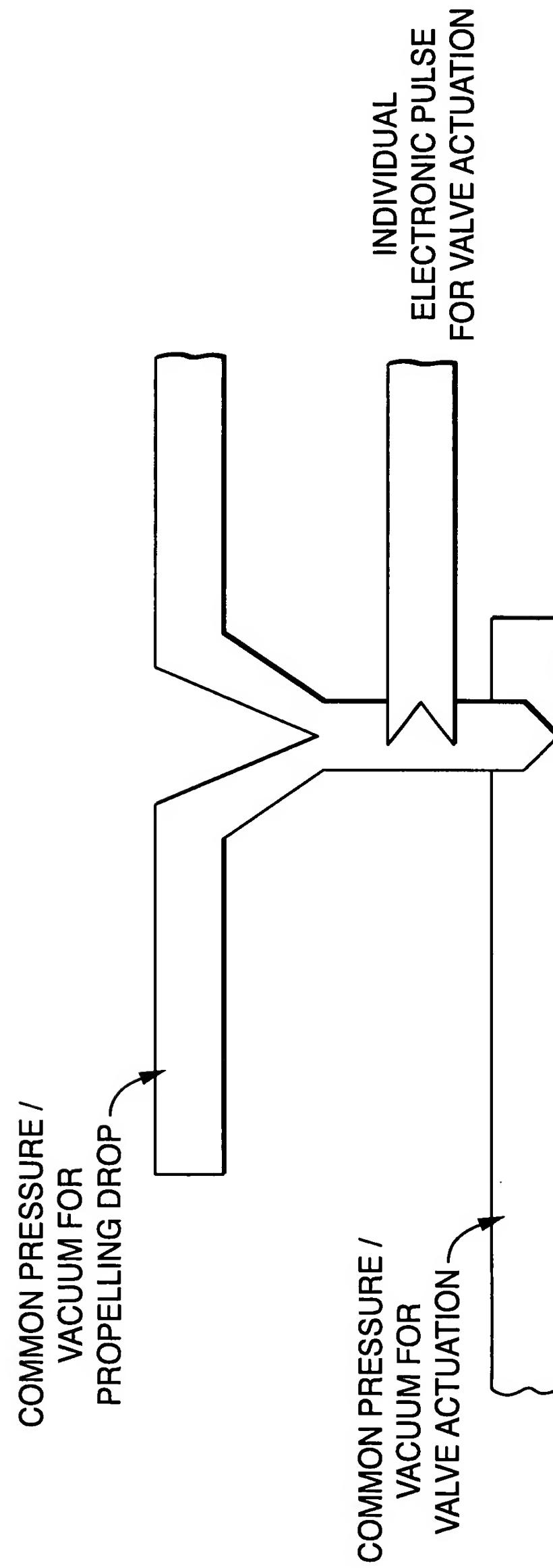


FIG. 10

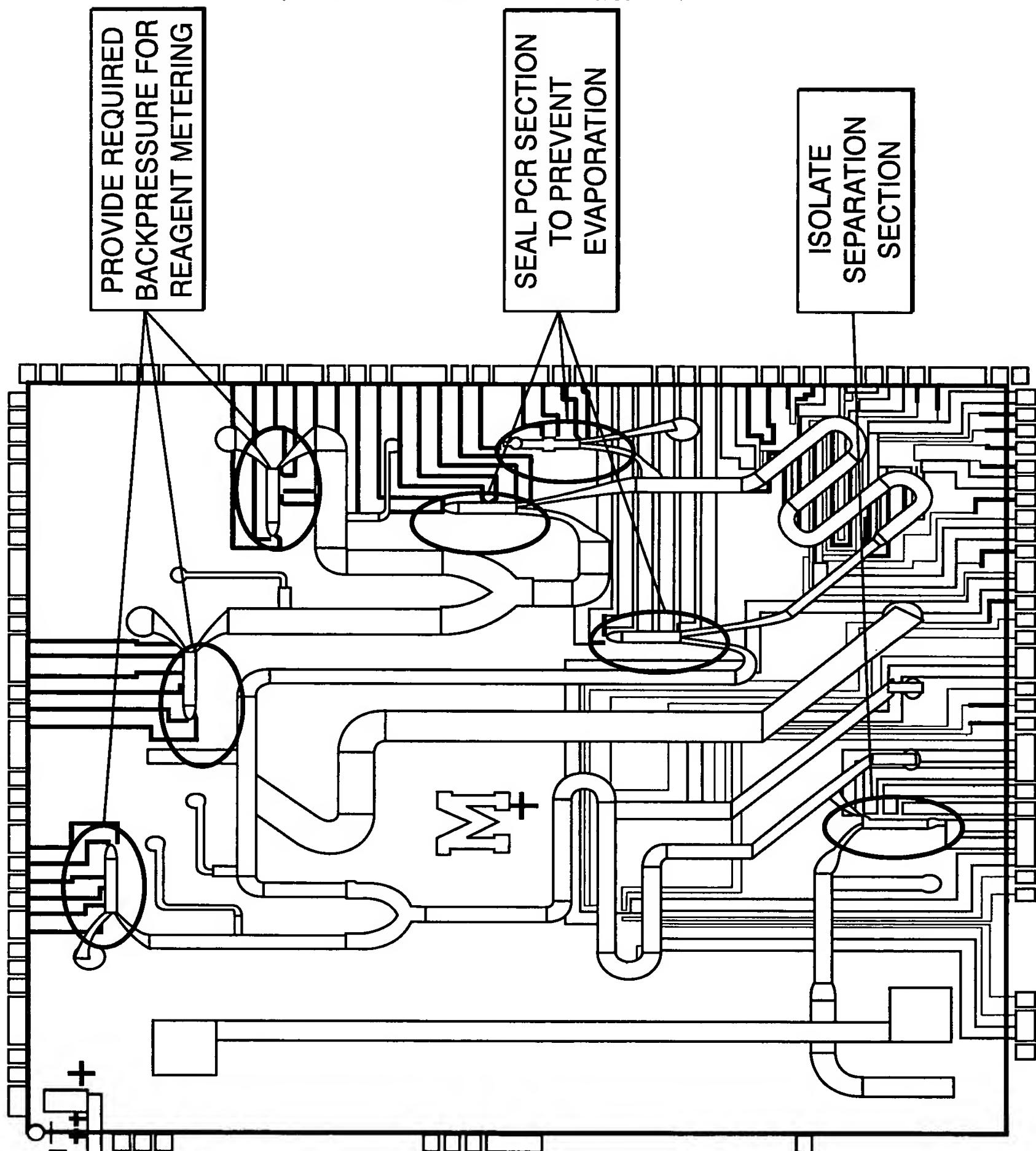


FIG. 11

Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: Thermal Micro-Valves for Micro-
Integrated Devices
Atty. Docket No.: UM-08280 Sheet 12 of 31

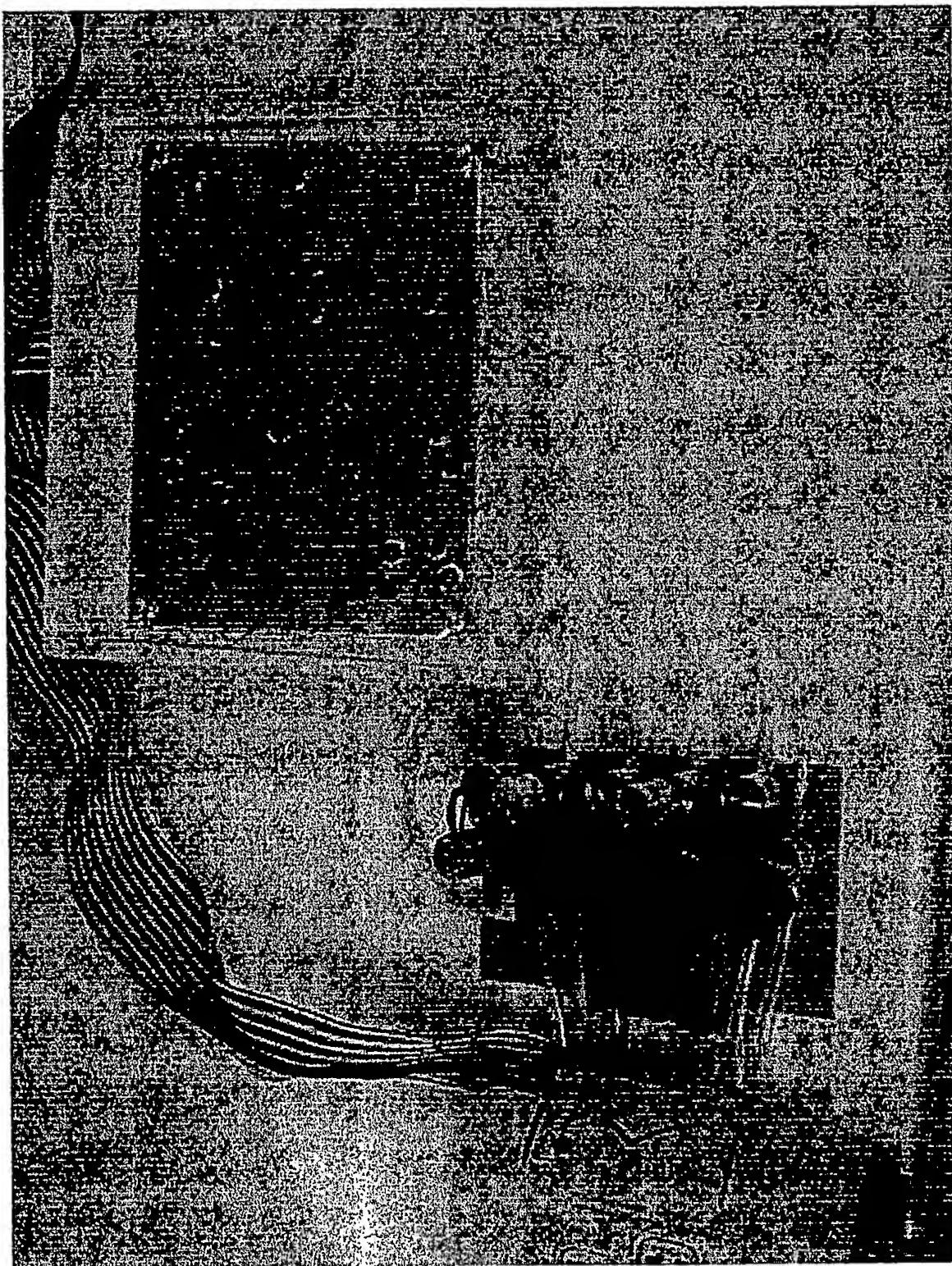


FIG. 12



FIG. 13A

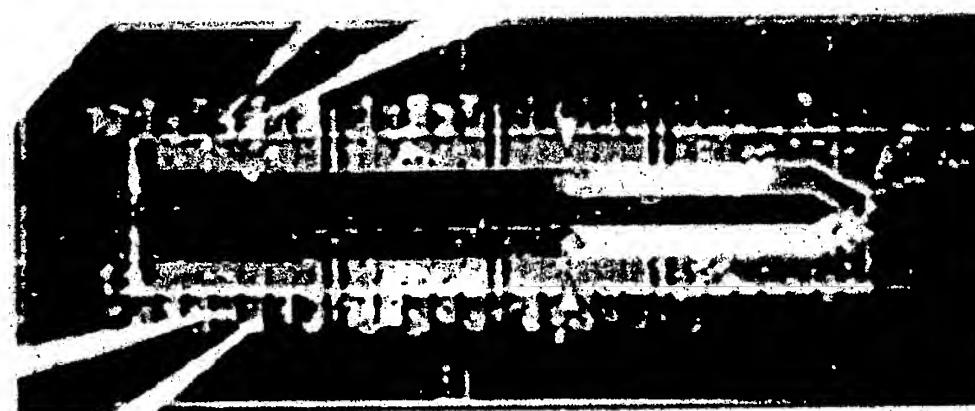


FIG. 13B



FIG. 13C

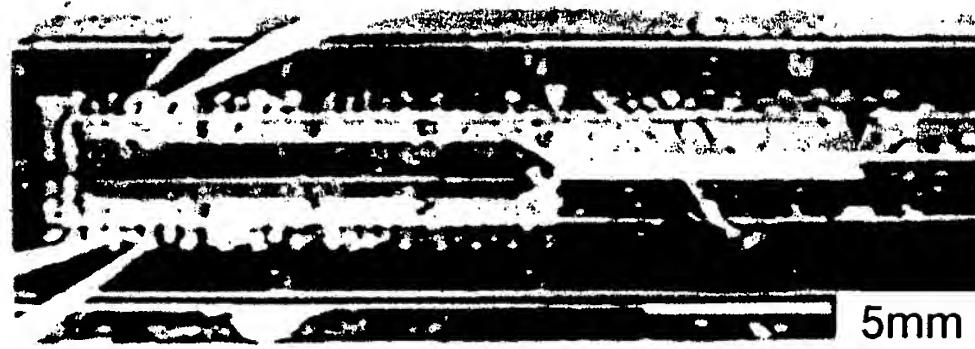


FIG. 13D

Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: Thermal Micro-Valves for Micro-
Integrated Devices
Atty. Docket No.: UM-08280 Sheet 14 of 31

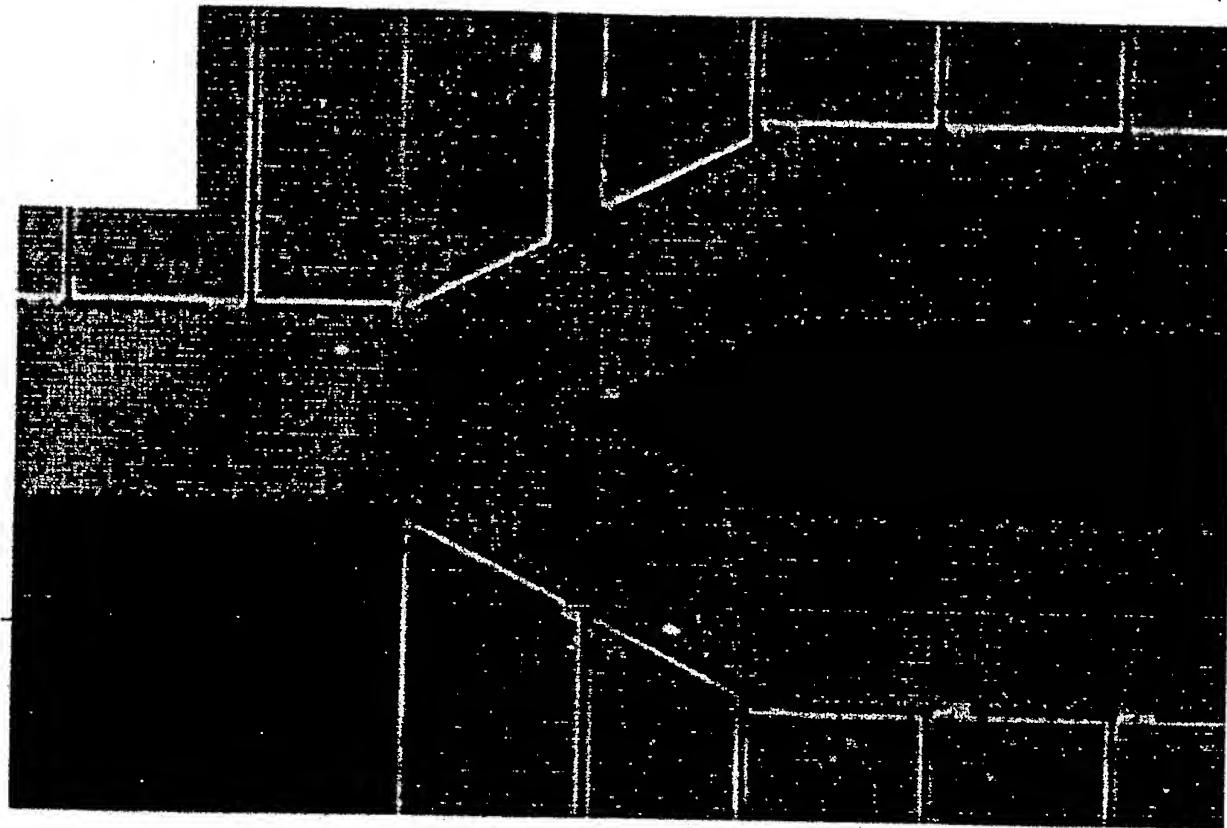


FIG. 14A

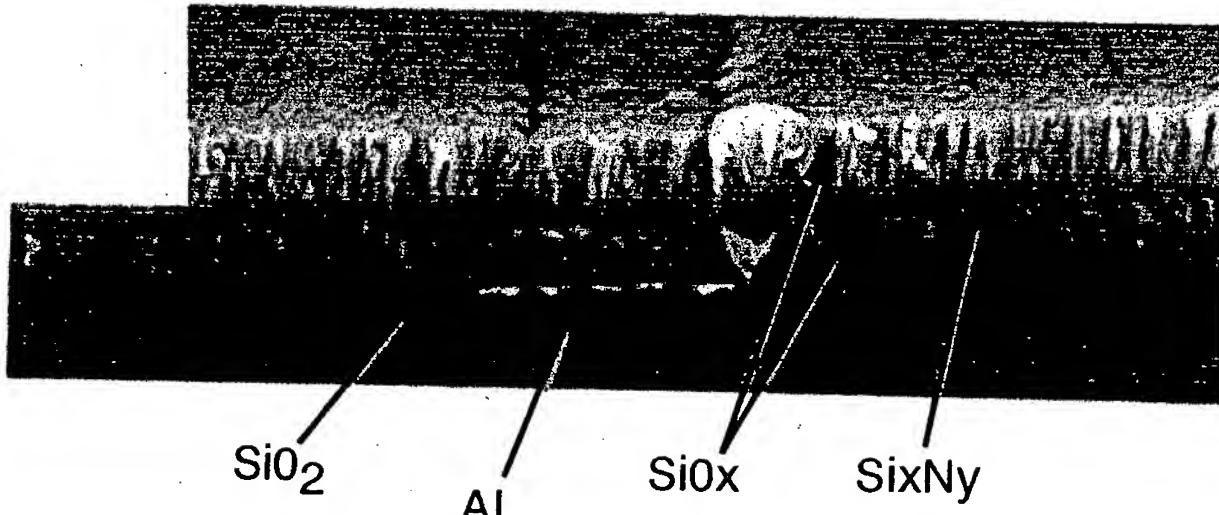


FIG. 14B

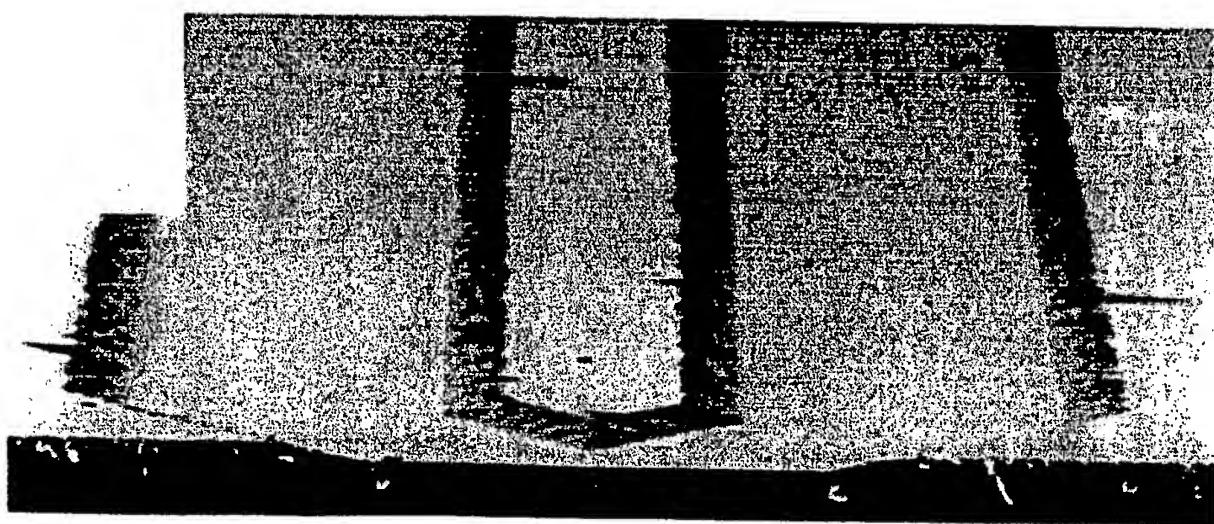


FIG. 15A

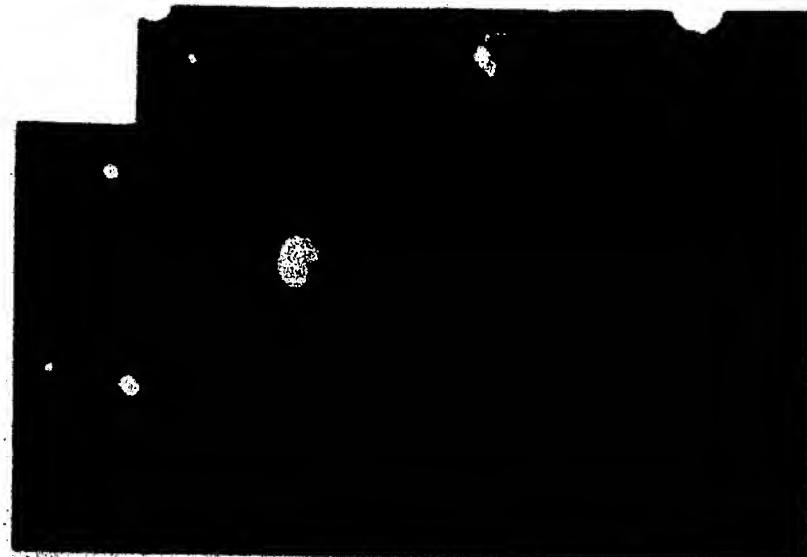


FIG. 15B

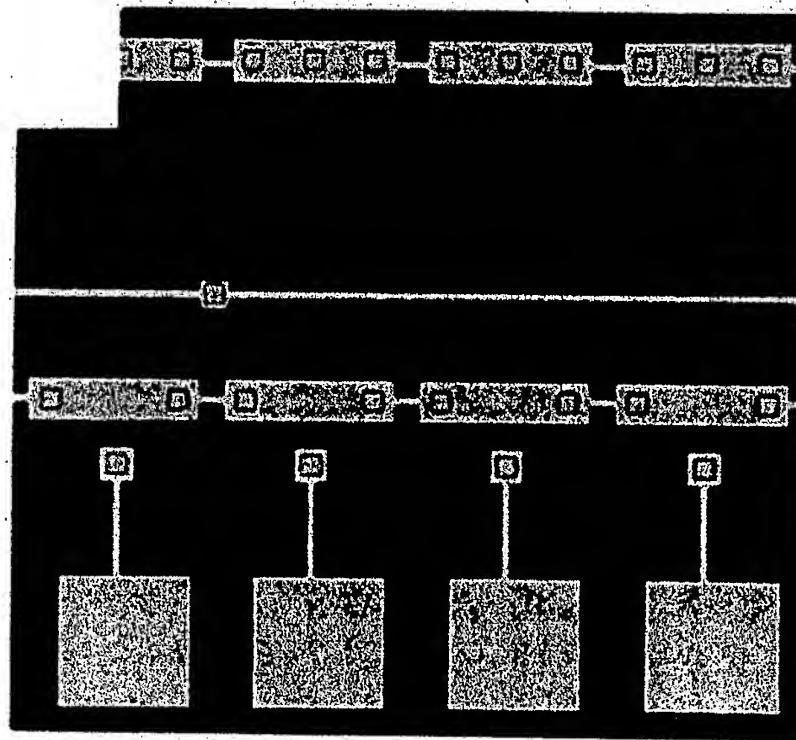
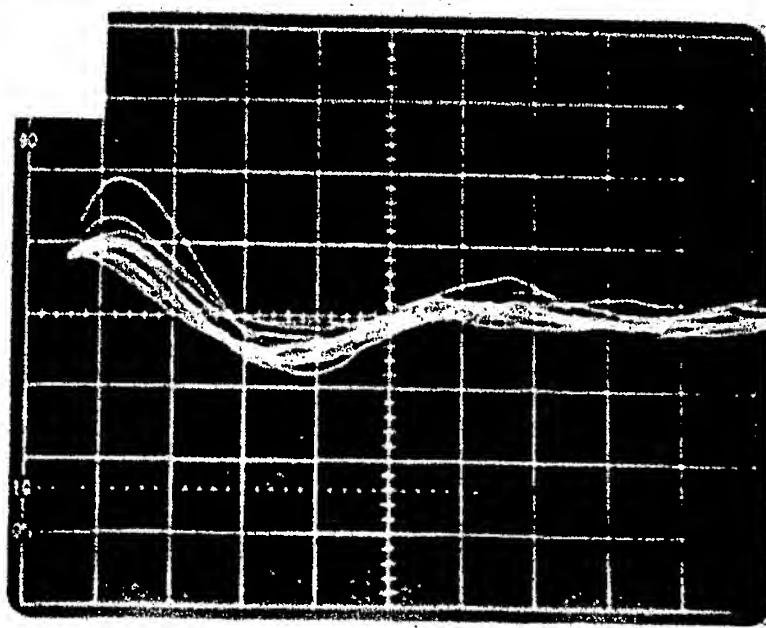


FIG. 15C



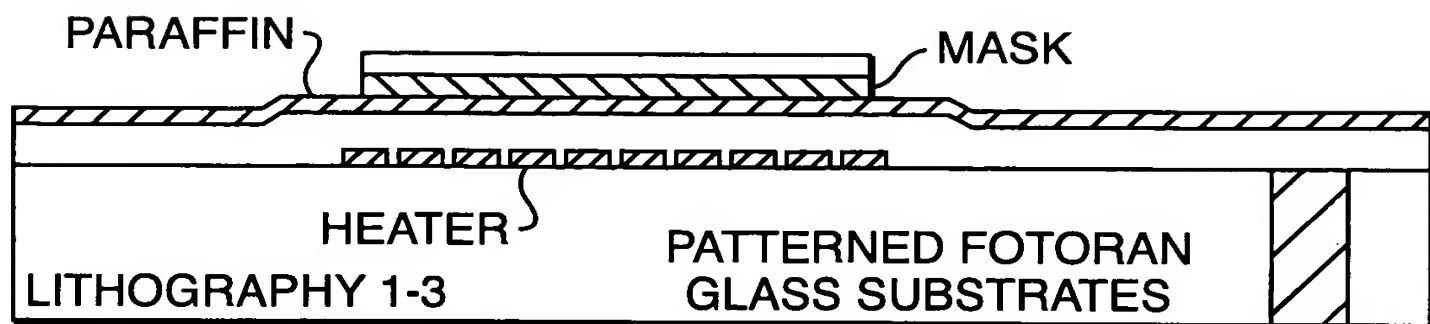


FIG. 16A

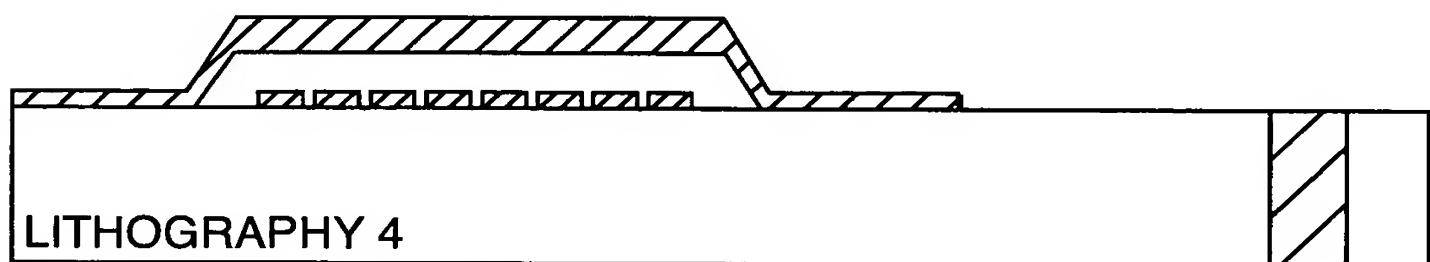


FIG. 16B

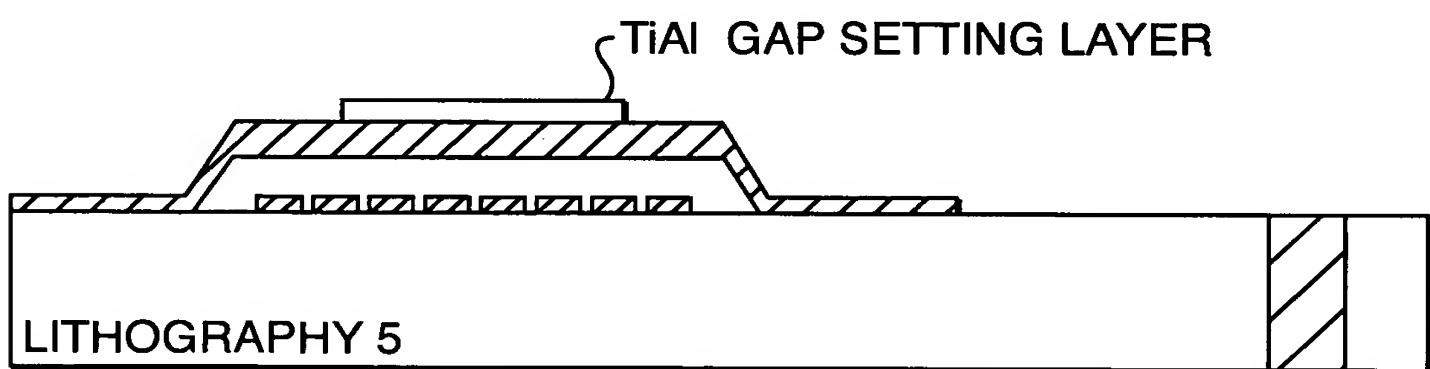


FIG. 16C

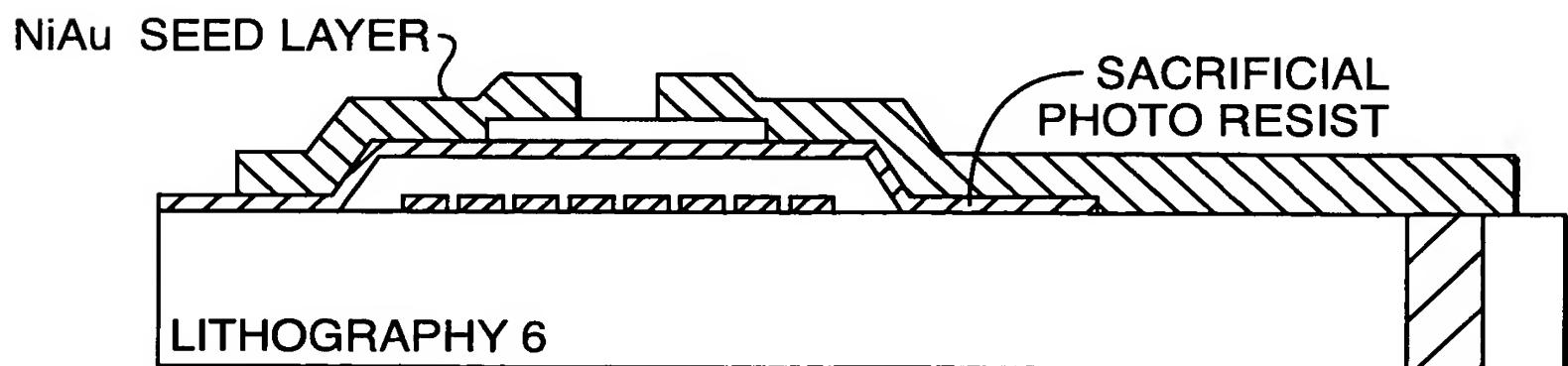


FIG. 16D

Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: **Thermal Micro-Valves for Micro-Integrated Devices**
Atty. Docket No.: UM-08280 Sheet 17 of 31

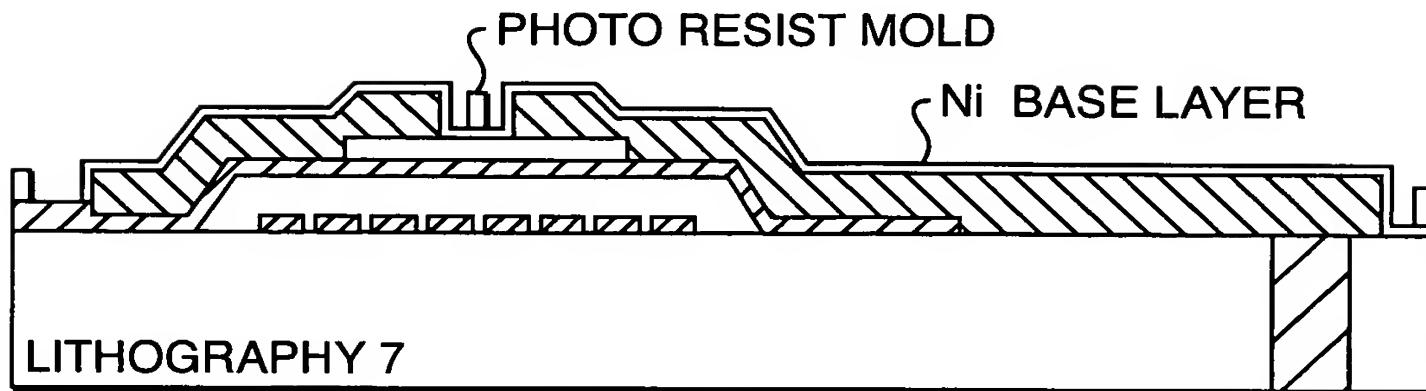


FIG. 16E

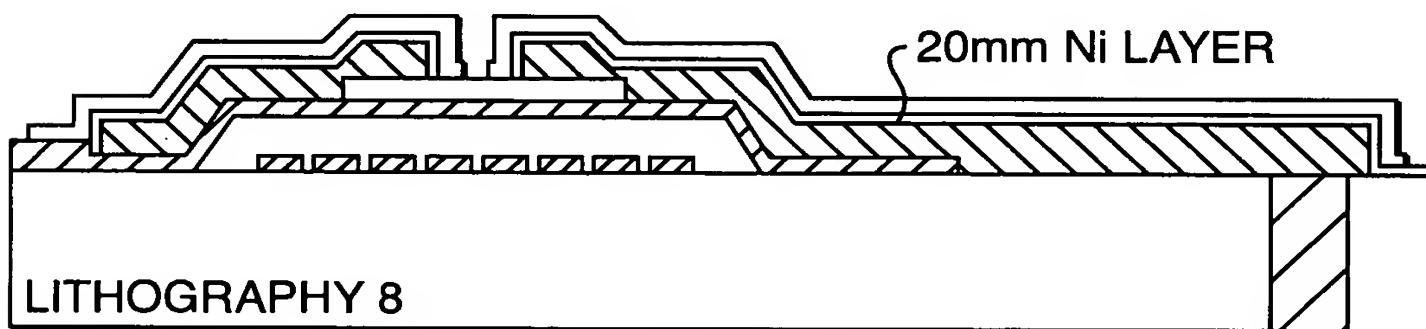


FIG. 16F

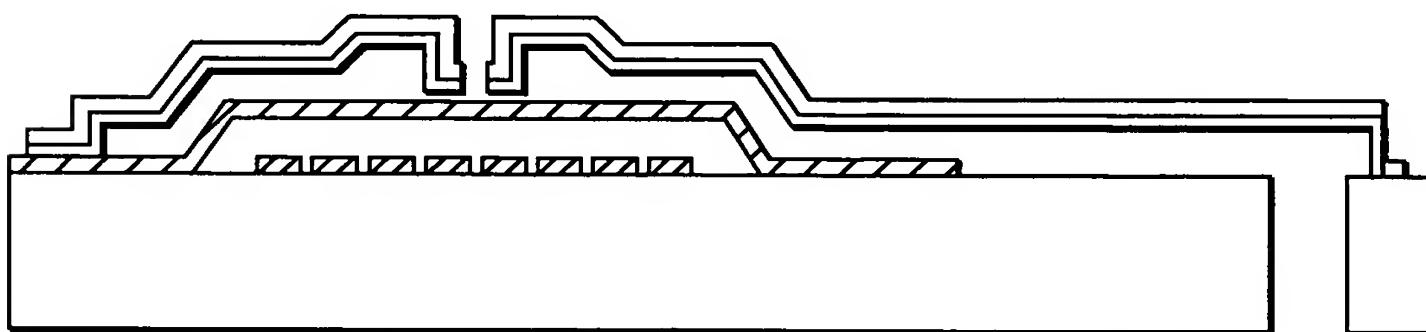


FIG. 16G

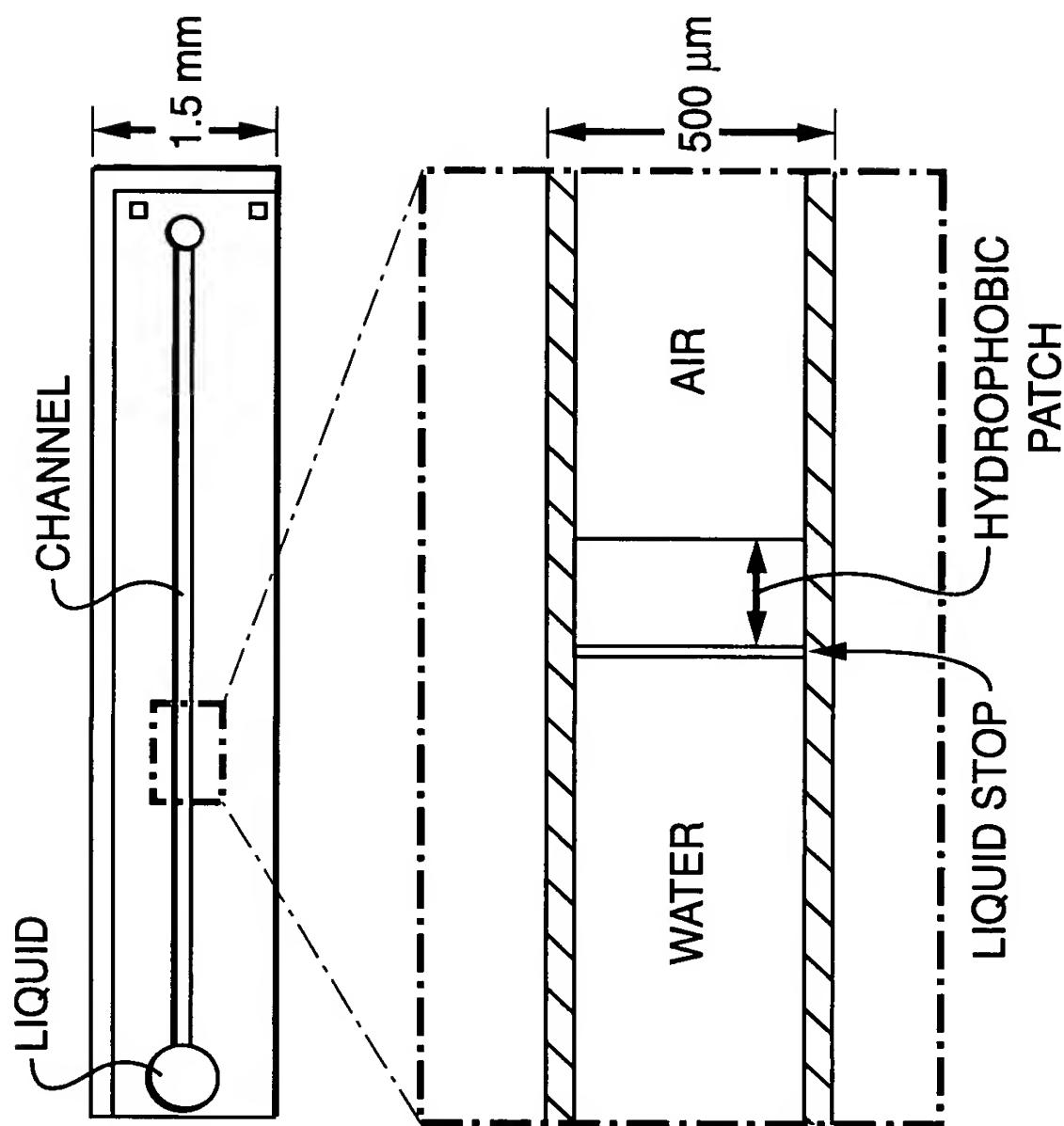


FIG. 17A

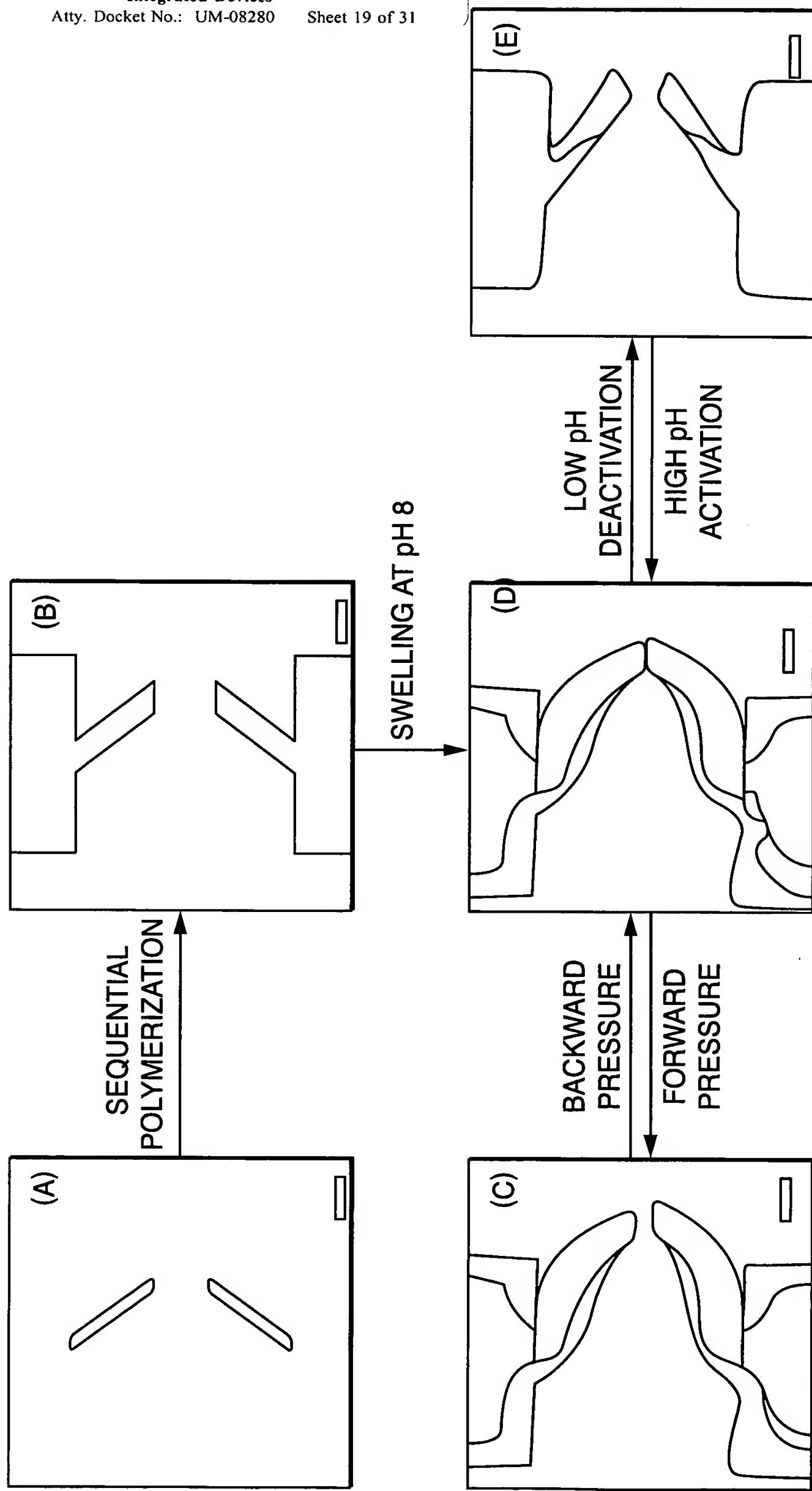


FIG. 17B

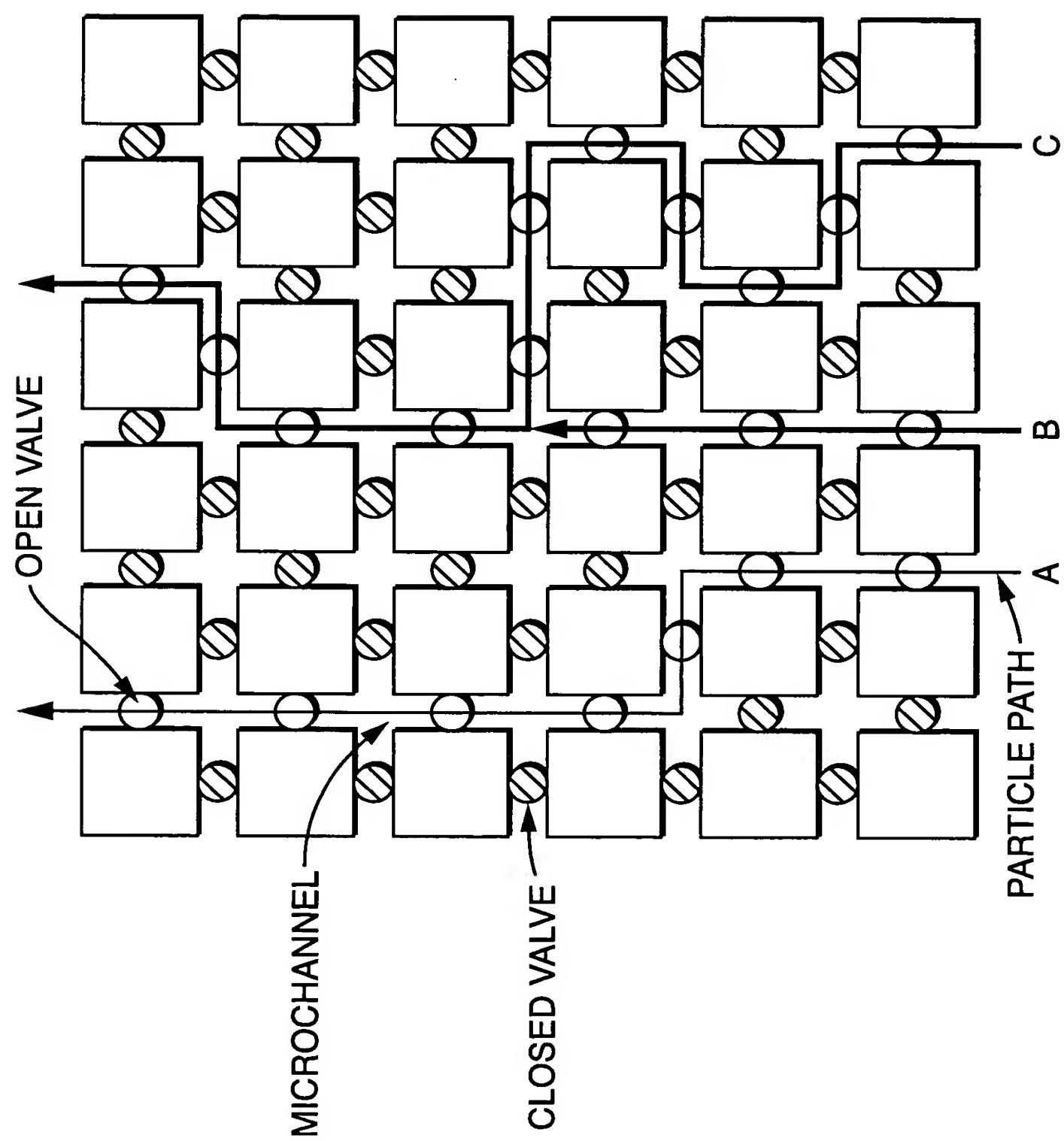


FIG. 18A

Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: Thermal Micro-Valves for Micro-
Integrated Devices
Atty. Docket No.: UM-08280 Sheet 21 of 31

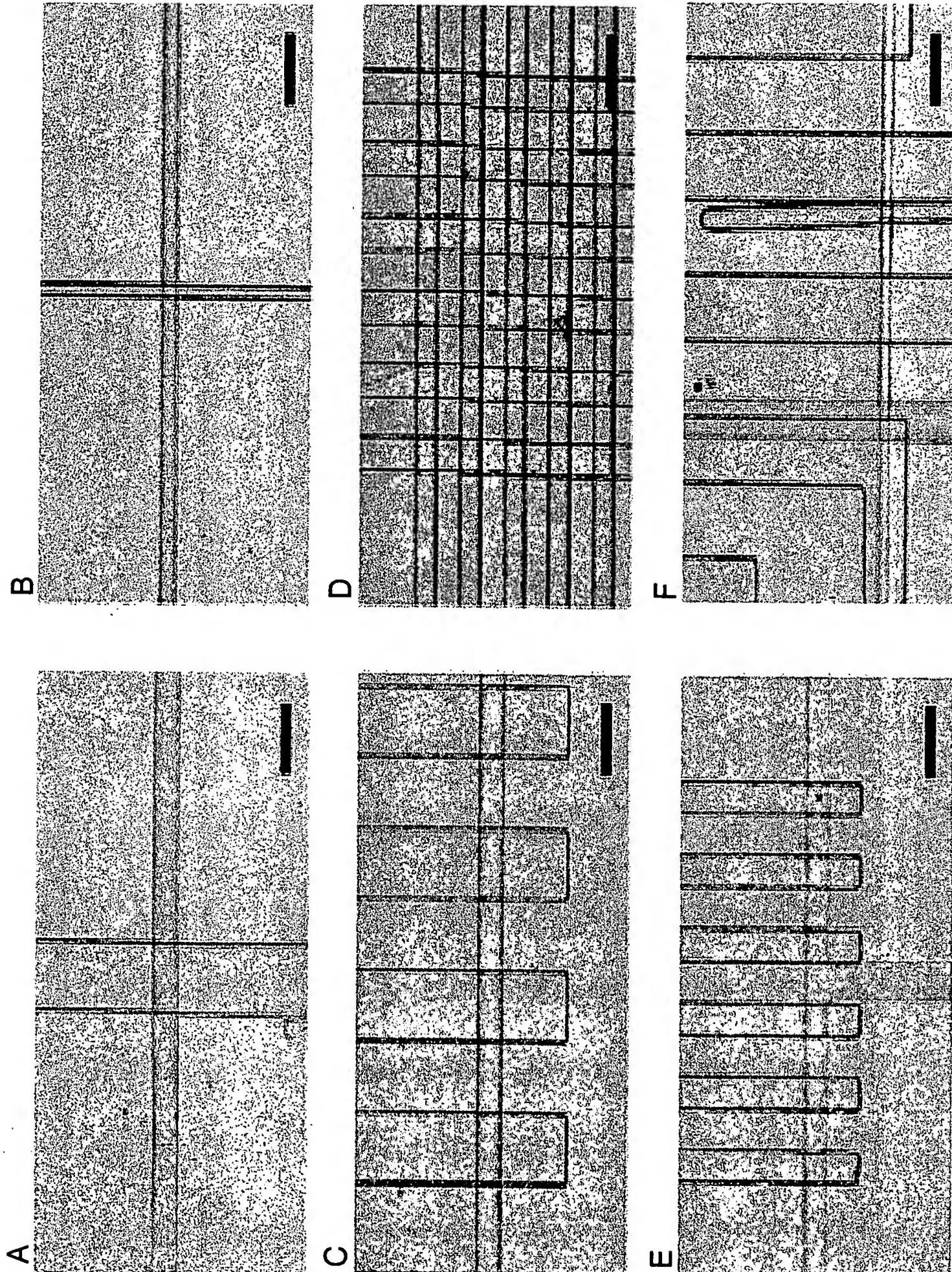


FIG. 18B

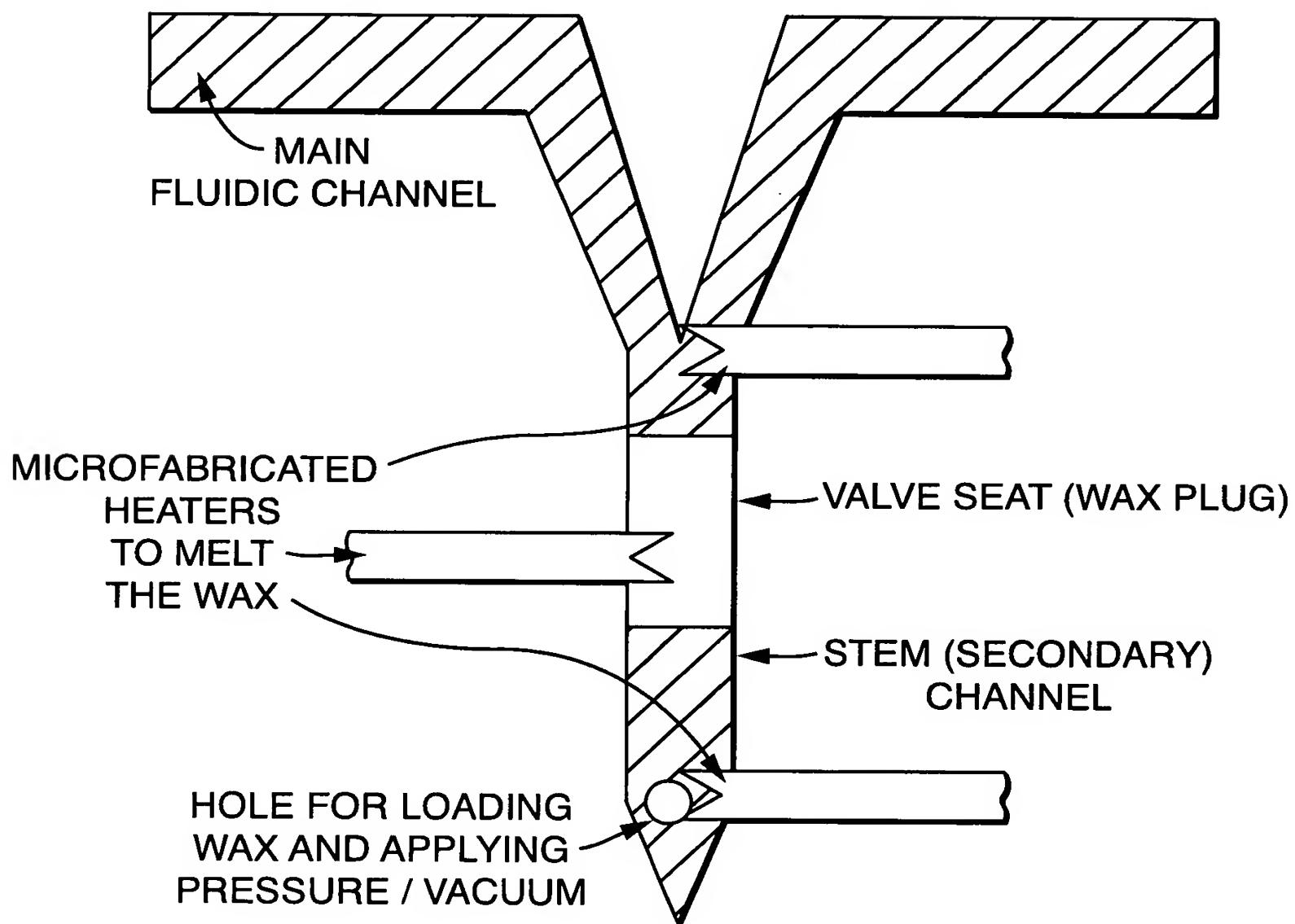


FIG. 19

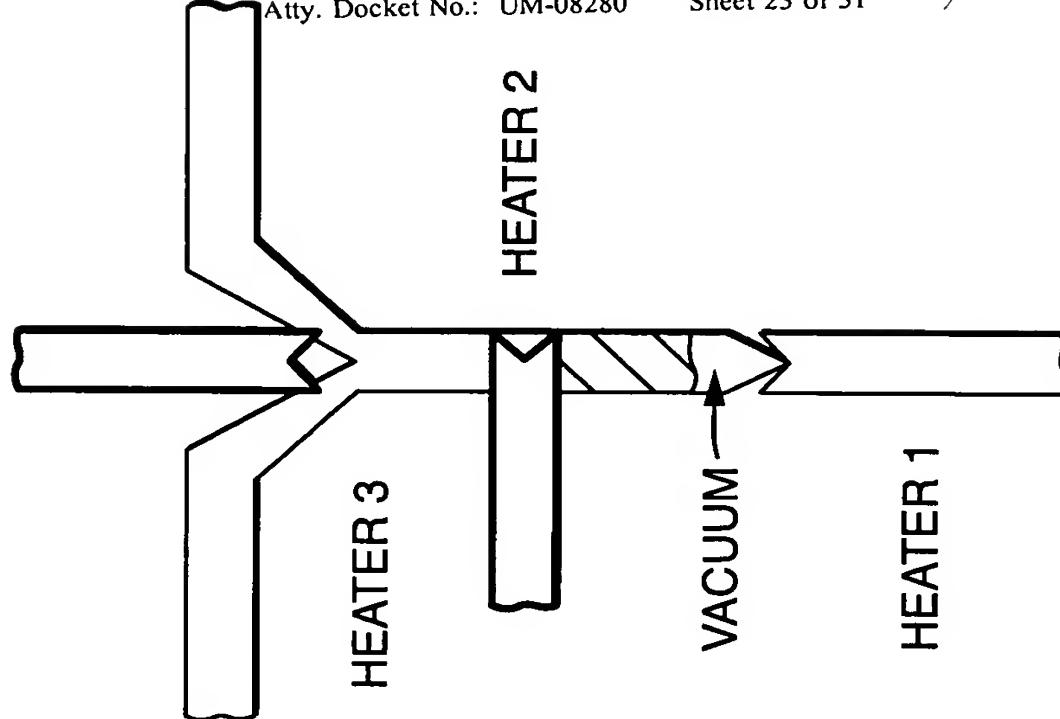


FIG. 20A

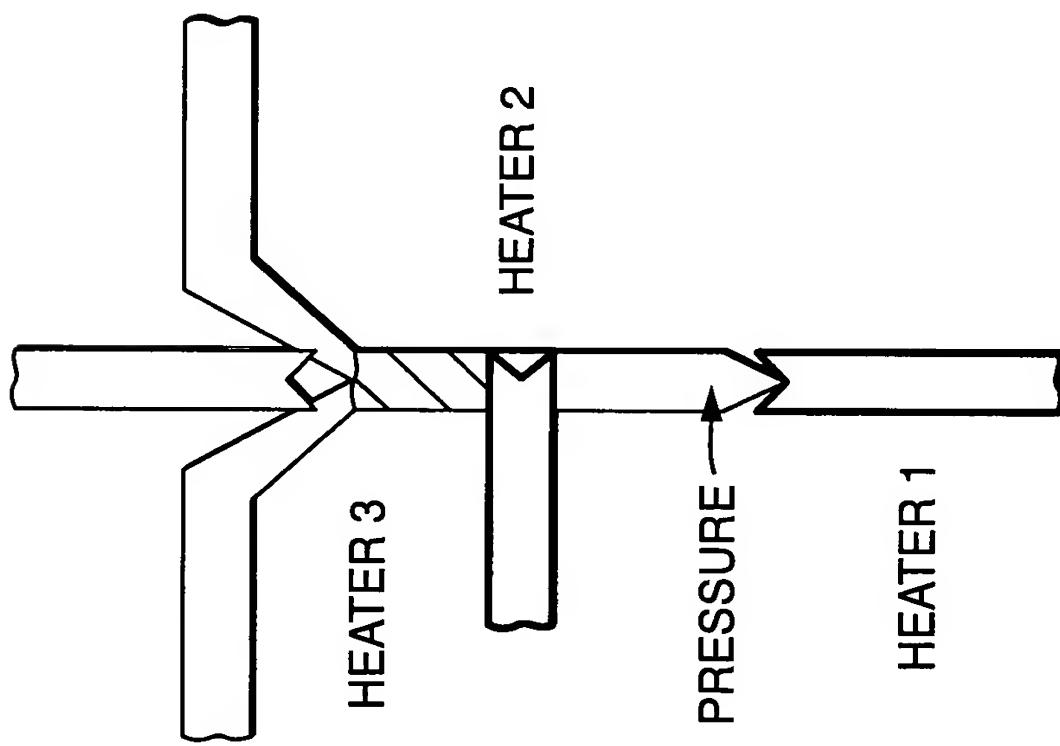


FIG. 20B

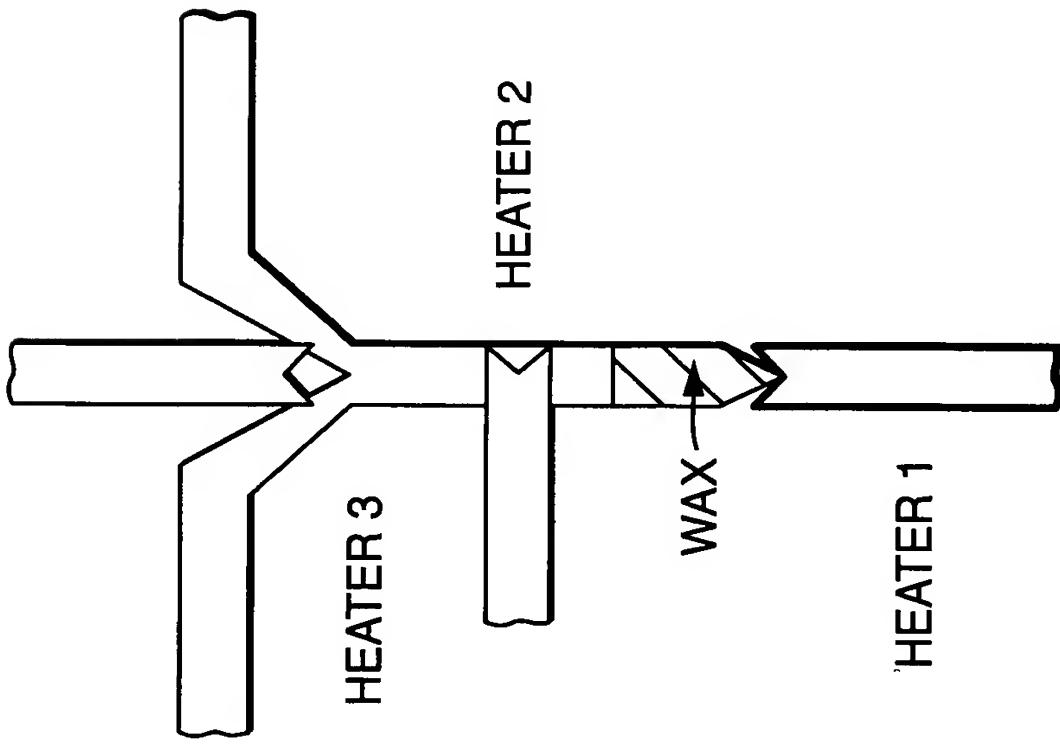


FIG. 20C

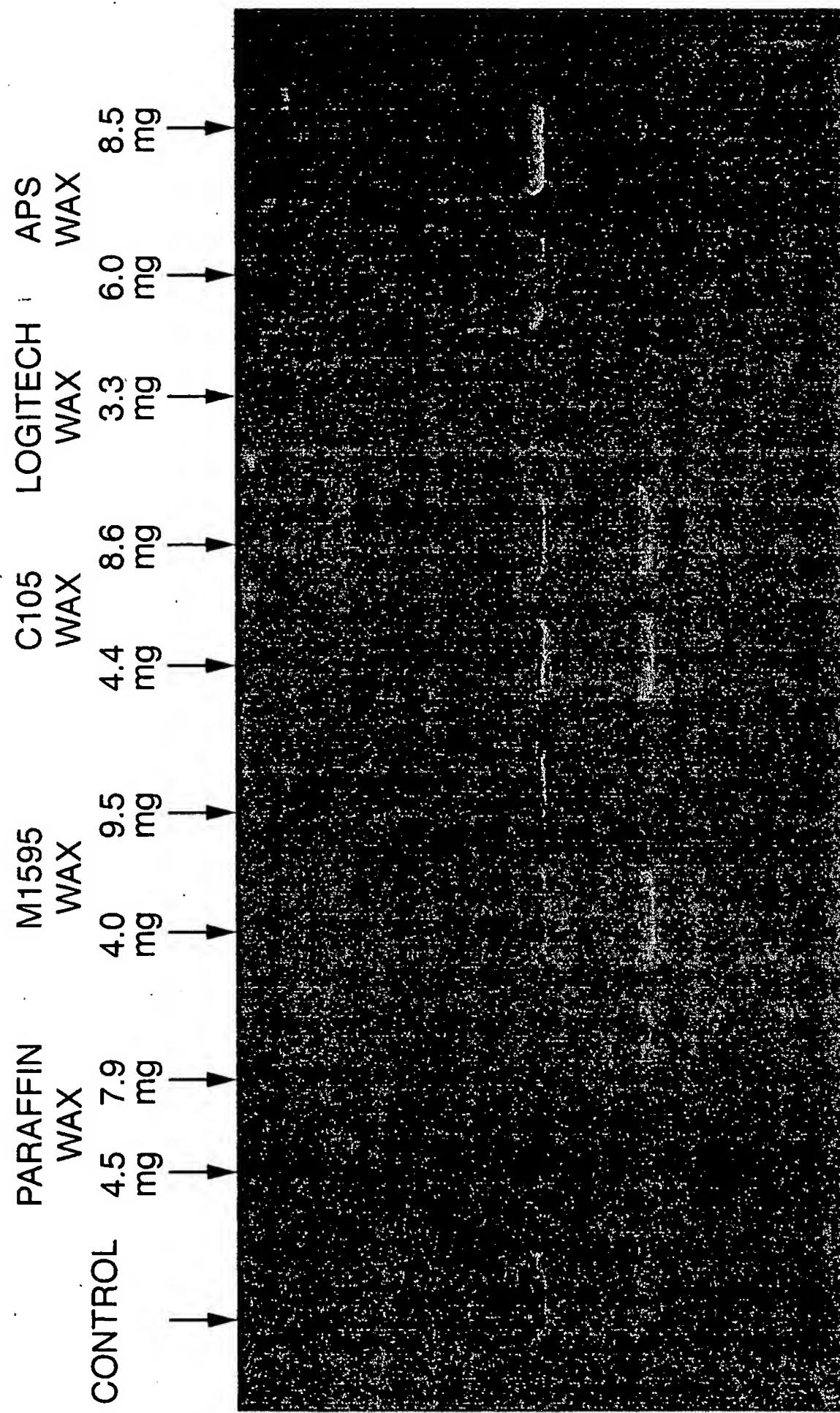
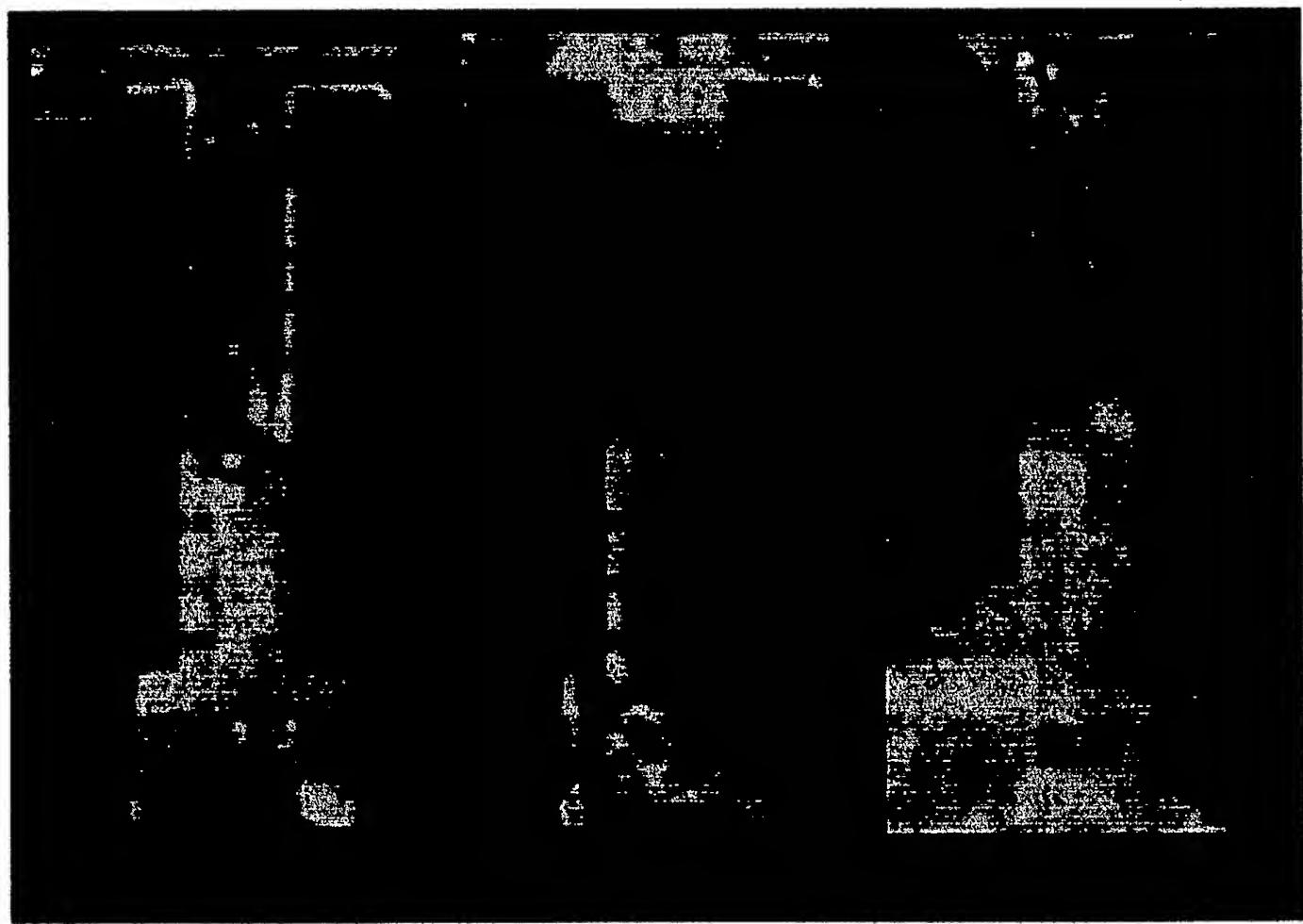


FIG. 21

Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: Thermal Micro-Valves for Micro-
 Integrated Devices
Atty. Docket No.: UM-08280 Sheet 25 of 31



(A)

(B)

(C)

FIG. 22

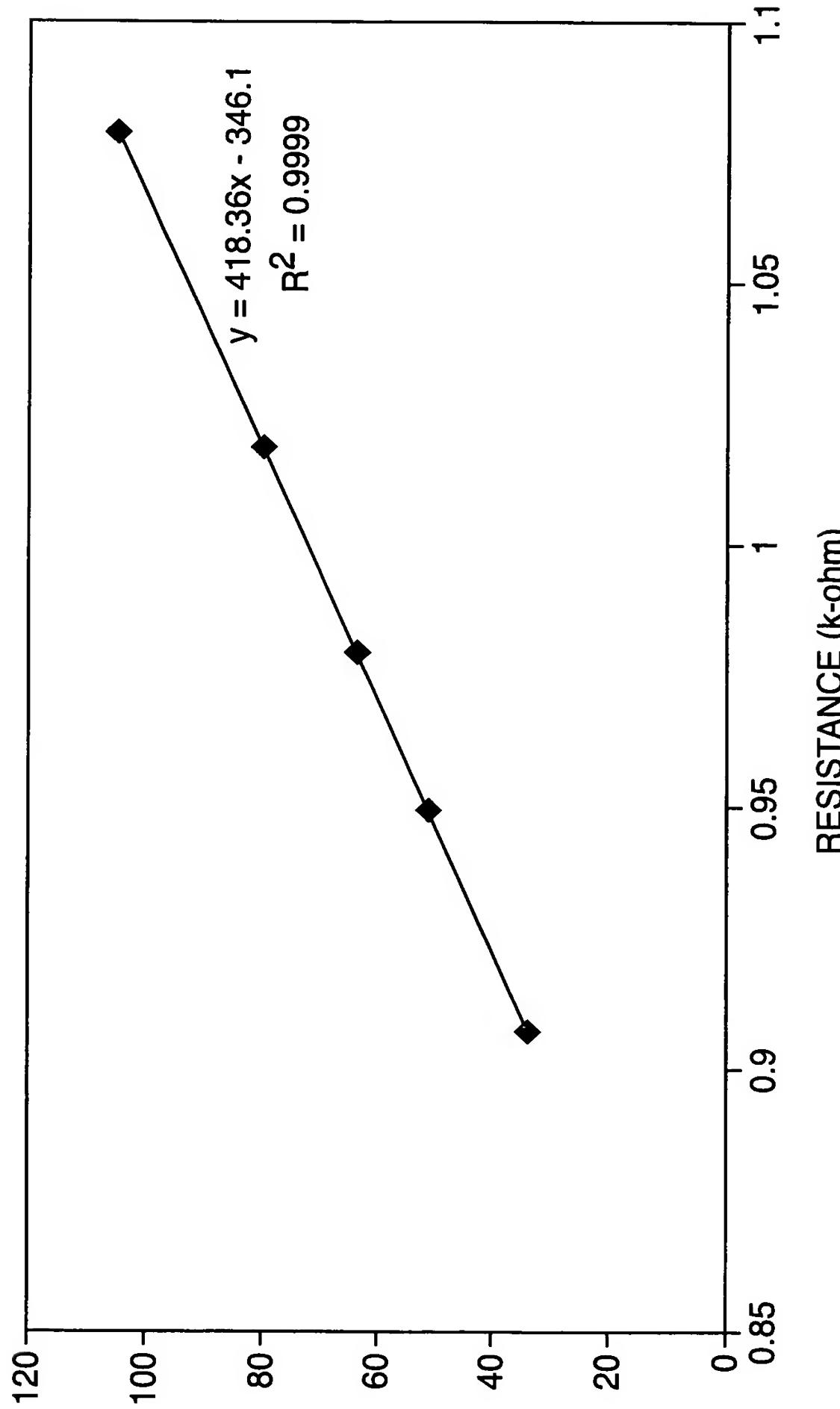


FIG. 23

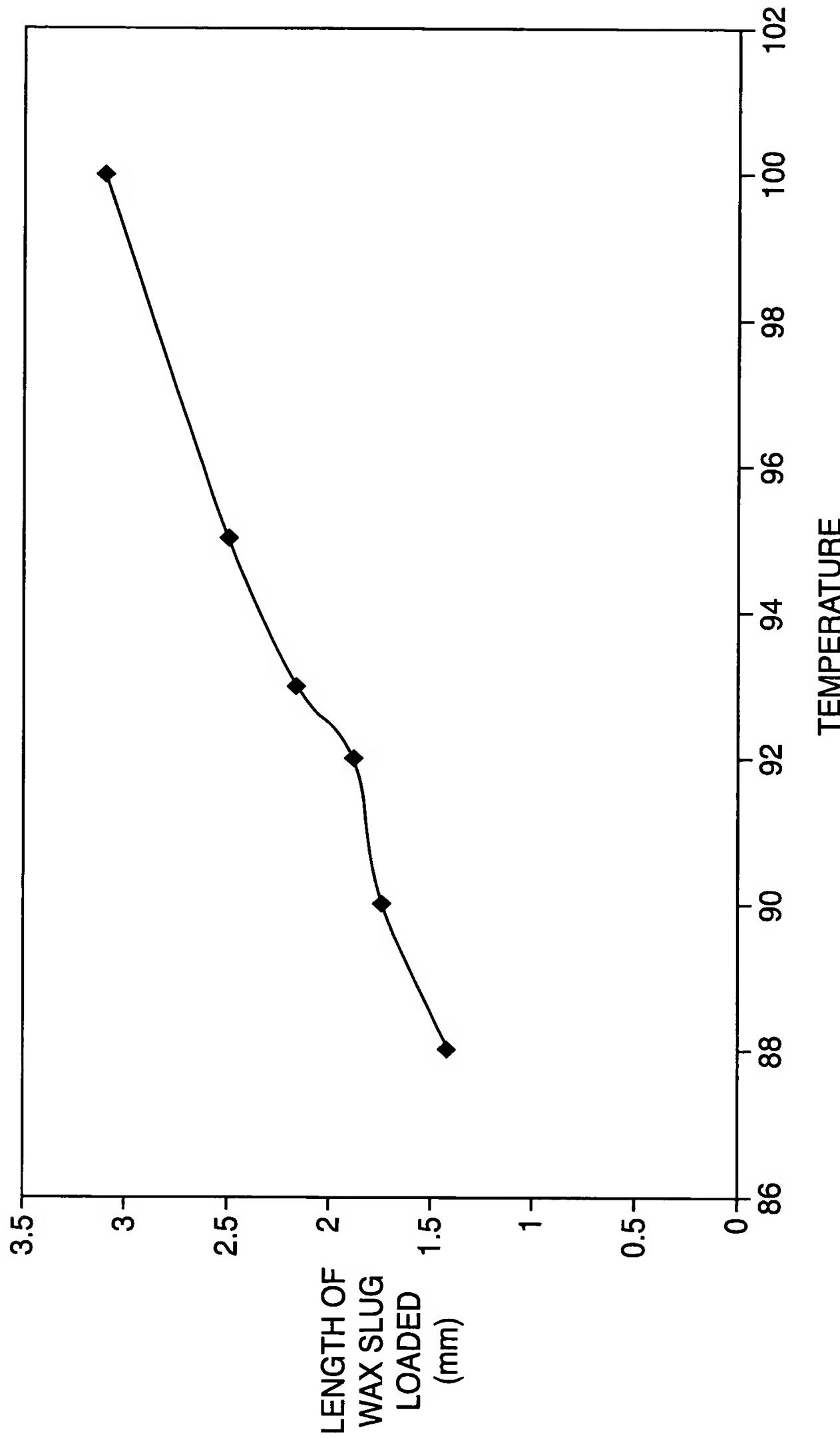


FIG. 24

FIG. 25

The graph plots Temperature (Degree C) on the Y-axis (ranging from -20 to 140) against TIME (s) on the X-axis (ranging from -20 to 100). Two data series are shown: 'INTERSECTION' (represented by open diamonds) and 'INLET PORT' (represented by a solid line). Both series start at approximately 25°C at 0 seconds. The 'INTERSECTION' series remains relatively flat until about 10 seconds, then rises sharply to 100°C at approximately 22 seconds. The 'INLET PORT' series shows a more gradual increase, reaching 100°C at approximately 35 seconds. After reaching 100°C, both series drop back towards 25°C.

TIME (s)	INTERSECTION (Degree C)	INLET PORT (Degree C)
0	25	25
10	25	25
20	25	25
22	100	25
30	100	50
35	100	75
40	100	90
50	100	100
60	100	100
70	100	100
80	100	100
90	100	100
100	100	100

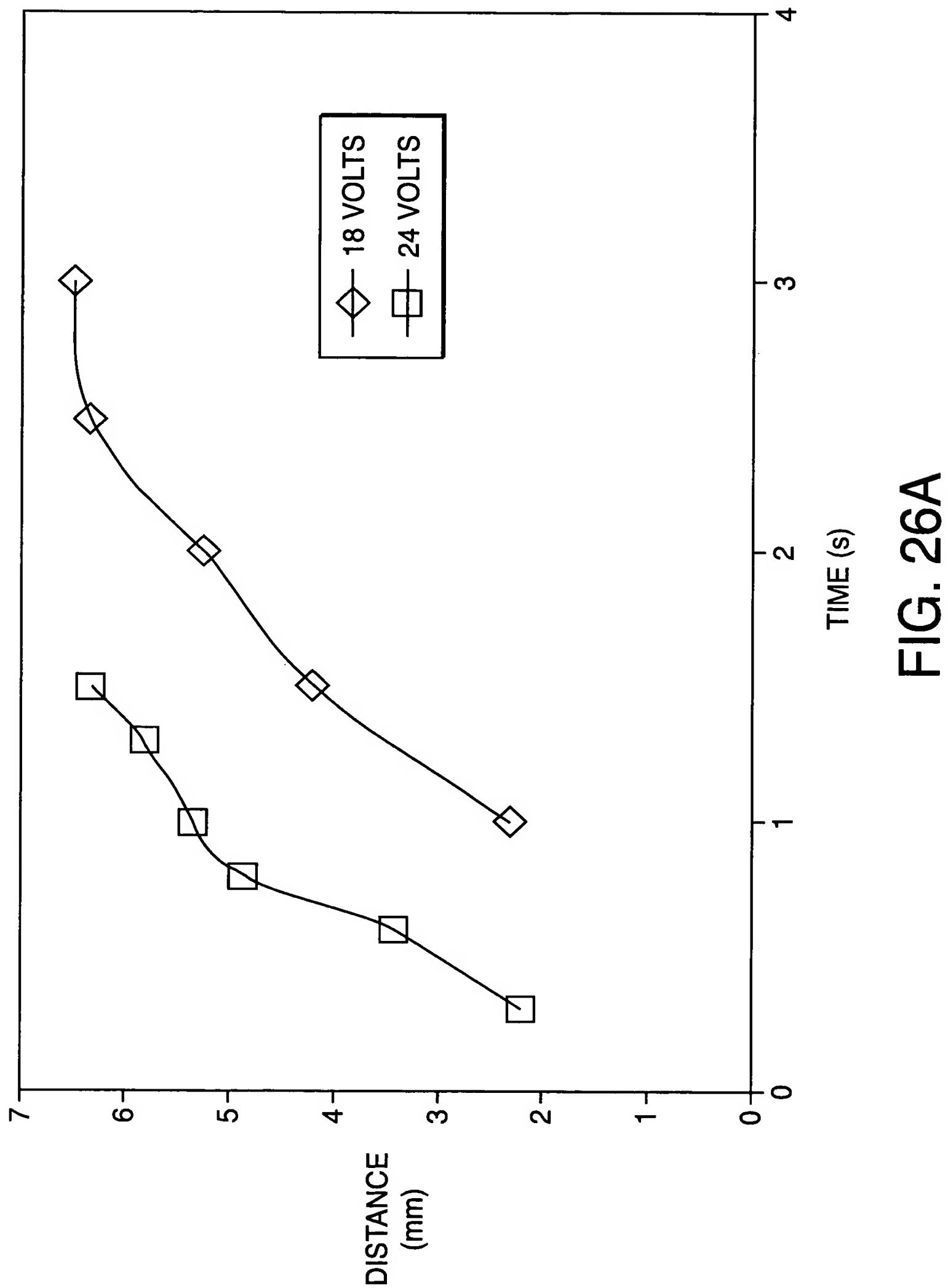


FIG. 26A

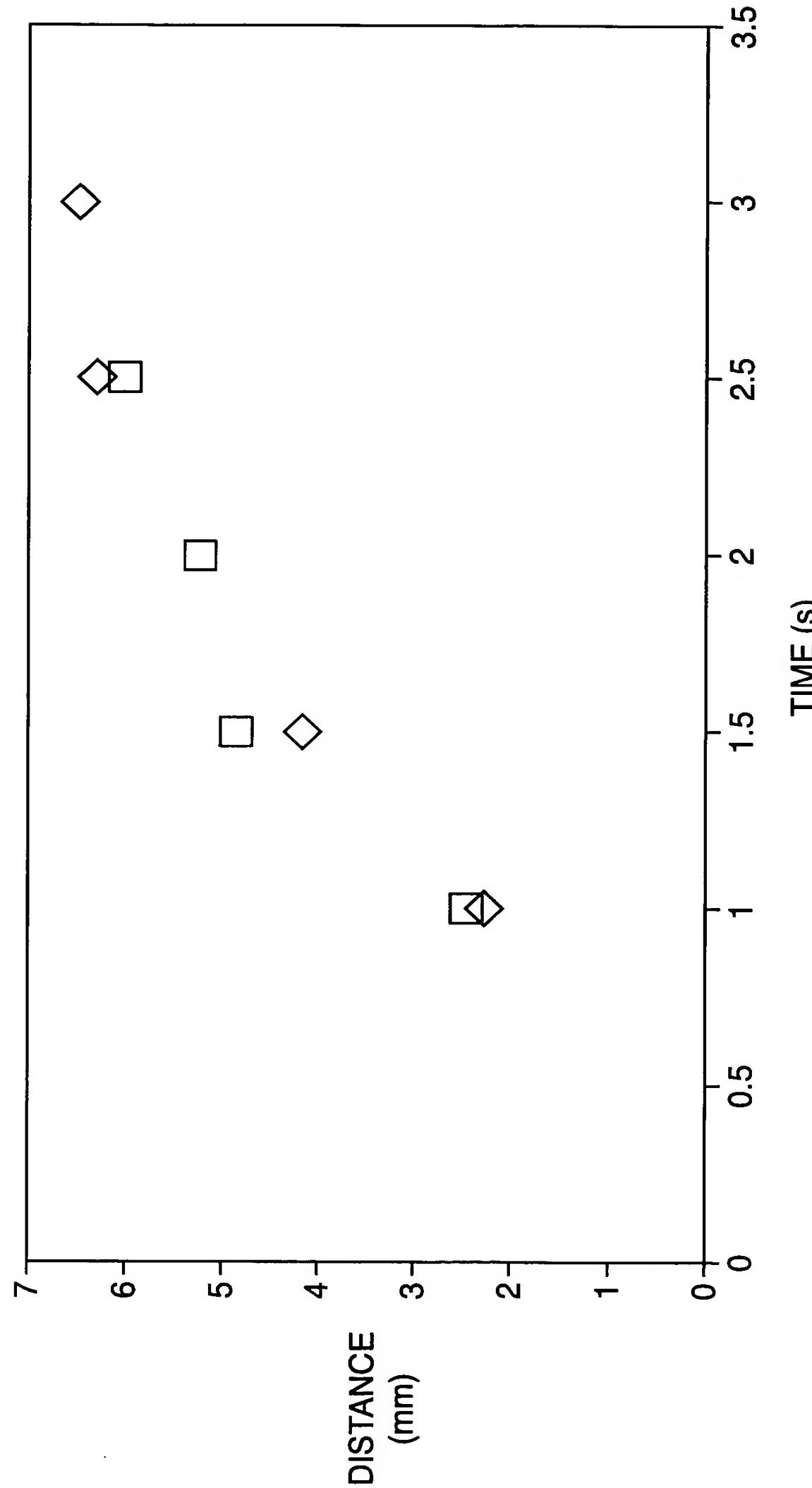


FIG. 26B

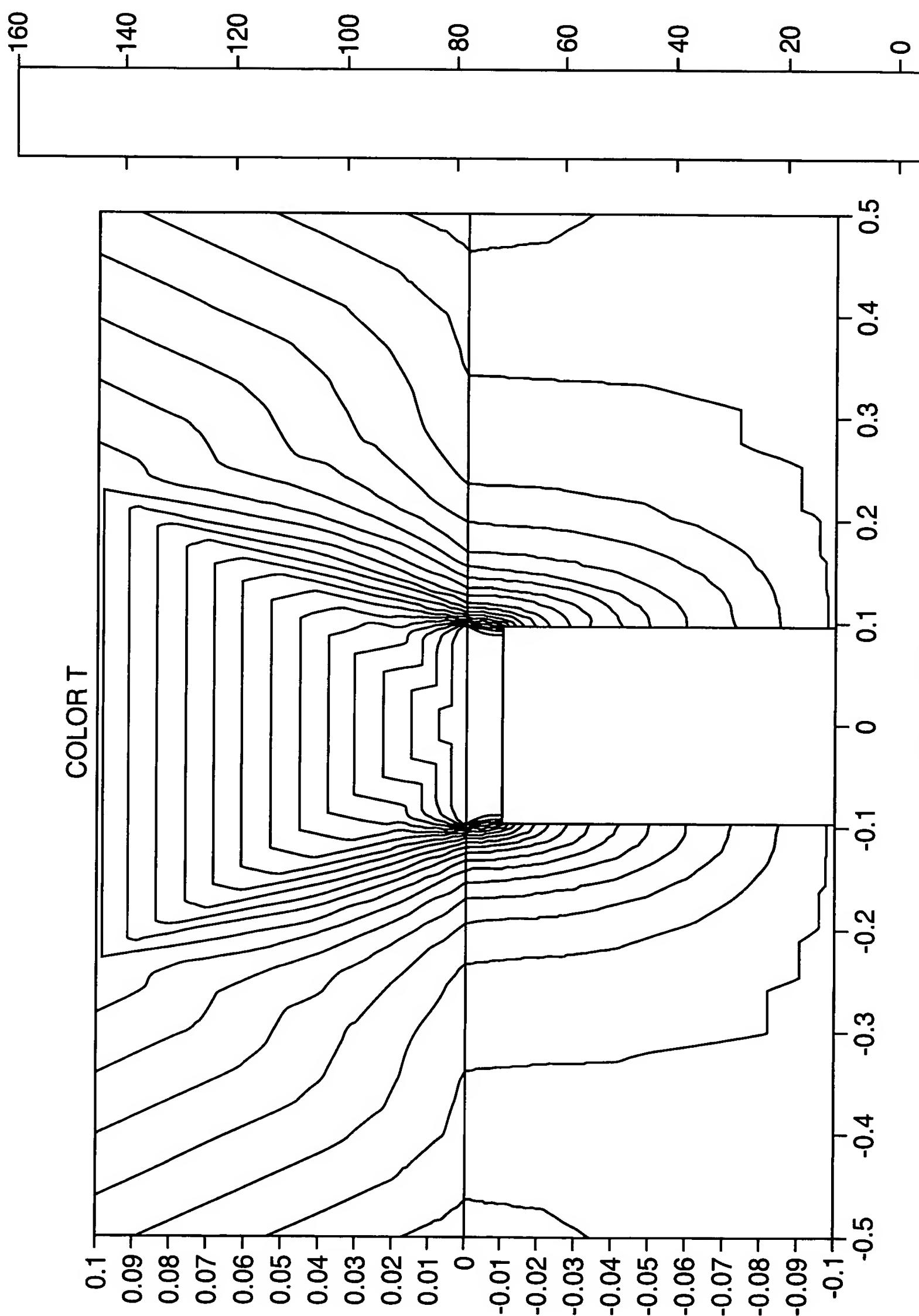


FIG. 27